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A HISTORY OF DYES[1]

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INTRODUCTION

The dyeing industry is one of venerable antiquity. The earliest historical records of almost all races of people give fragmentary references to the use of dyes of various sorts. The question as to the nature of the instinct which first prompted members of the human race to desire colored fabrics is one which can be answered only by conjecture. The origin of the word *color* is of interest in this connection. The Reverend Walter W. Skeat (1), an eminent authority on the subject of etymology, states that the term color was derived originally from one of two Latin verbs, *celare* or *occulare*, both of which mean to hide, cover, or conceal. Whether this interpretation indicates that the staining of the body as practiced by various primitive races of people may have given rise to the term color, or whether the original meaning had reference to the application of coloring matter to a fabric, for the purpose of hiding, covering, or concealing the natural drab appearance of most raw fibers can not be answered from the insufficient historical evidence at hand.

An interesting scrap of historical incident showing the practice of staining the body with a dye is given by Julius Caesar in his description of the inhabitants of Britain at the time of his second invasion of the islands, in 54 B. C. In his Commentaries, Caesar describes the inhabitants of Kent, the maritime region in which he first landed, as differing but slightly in dress and customs from their Gallic neighbors across the channel. The inhabitants further inland, however, he describes as possessing a much more primitive type of civilization (2): "Most of the inhabitants of the interior do not sow corn, but live upon milk and flesh and are clad in skins. All Britains in fact, dye themselves with woad, which produces a blue color, and they are therefore more horrible in appearance in battle."

[1] The authors wish to express thanks to Professor R. E. Dengler of the Department of Ancient Languages, The Pennsylvania State College, for valuable assistance in the preparation of the portion of this work related to the ancient history of dyes.

Woad, the material mentioned in Caesar's description as given above, is a dye extracted from the crushed and fermented leaves of a cruciferous herb (Isatis tinctoria) which still grows sporadically in fields, on banks, and in chalk-pits in various parts of England. Before the introduction of the superior indigo, woad was cultivated extensively in England as well as in other parts of Europe as a source of blue coloring matter for the dyeing of textile fabrics (3).

Various theories have been advanced for explaining the origin of the practice of dyeing textile fabrics. The following are typical:

1. *The imitation theory* (4). This attributes the practice to the fact that human beings, prompted by their admiration for the colored ornamentation displayed on all sides by nature herself, are thus inclined to imitate, in their articles of apparel, the natural color of the leaves, the flowers, and the birds.

2. *The sexual attraction theory* (5). According to this theory the desire for personal adornment, including all forms of ornamental treatment of dress, is to be explained as emanating from a desire to make oneself attractive to members of the opposite sex.

3. *The rank theory* (6). Herbert Spencer, the foremost advocate of this theory, believes that costume itself, including all of its variations as to quantity, quality, and color, had its origin in attempts to show difference in rank of certain members of society. According to Spencer, the hunter of primitive times adorned himself in the skin of his prey, not so much as a means of protection from the cold as for a desire to show his prowess. Slaves and members of servile classes, having no time to engage in the hunt, were thus unable to display such garments as their more fortunate masters. From this fact it is possible that a distinction between the ruling and the servile classes may have arisen as to the quantity, and, perhaps, the quality of the clothing worn. With the development of ceremonial control which accompanies elaborations of political structure, Spencer suggests that the style, texture, and color may have been combined to produce costumes which were indicative of rank. This suggestion is borne out historically by the fact that various ancient civilizations have at different times passed laws restricting the use of certain colors to members of the ruling classes (7).

Whatever may have been the origin of the practice of dyeing textile fabrics, the stages of the evolution of this industry coincide very closely with the periods of development pointed out by Slosson as being characteristic of almost every line of human endeavor. According to Slosson, each industry engaged in by man shows three distinct stages of development (8): (1) The appropriative period; (2) the adaptive period; (3) the creative period.

Primitive man appropriates from nature whatever can be found which is applicable to his needs. His successor in the next stage of culture improves upon this appropriated material, making it the better fitted to supply the need for which it is intended. When the need for this material becomes so great that nature can no longer supply it, inventive man next sets himself to a determination of a method by which he can create an artificial substitute for the natural.

In no single line of endeavor are these stages of progress more markedly observed than in the dye industry. With this trend of development in mind, let us consider some of the important dyestuffs of both ancient and modern origin.

THE APPROPRIATIVE PERIOD

Primitive man, perhaps by accident, finds that colors can be obtained from various natural sources, such as, for example, the juices of fruits. Having been pleased with the effect produced by thus accidentally staining the body or the garments with natural dyes, a deliberate search for a greater variety of such coloring materials probably follows. Thus we find men in all stages of culture and at all periods of the world's history, appropriating dye materials from the vegetable, the animal, and the mineral kingdoms.

Vegetable dyes. Of the three classes of natural dyes, members of the vegetable kingdom far outnumber those of the other two. The fruit, the flowers, the roots, the stem, and the leaves of various plants have, from the earliest times, furnished dyestuffs which have been used by man for coloring textile fabrics. When these are used as obtained from nature, however, they give, in most instances, but fugitive and unsatisfactory colors.

Dyes obtained from fruits and seeds

1. *Grapes.* An early reference to the use of fruit juices as a source of coloring material is found in the Bible (9). In this reference, washing clothes in the blood of grapes is referred to.

2. Pellew (10) suggests that the juices of *blackberries*, *huckleberries*, *peaches*, and other fruits might be used in the absence of anything better for the staining of textile fabrics. The colors obtained in each case, however, would probably be fugitive in character.

3. *Persian berries*, the dried fruit of several species of buckthorn (Rhamnus), a plant which grows wild in Asia Minor, is of historical interest as a source of a dye material (11).

4. Pellew (12) points out that in certain regions of Quebec the French Canadian women dye their homespun cloth by boiling it with the skins of yellow or brown *onions*.

5. *Annatto* (or *arnotto*) is a dyestuff prepared from the fermented seed of a tree (Bixa orellano) which grows in Central America, the East Indies, and the Antilles (13).

6. *Weld*, or dyer's weed, is a dye obtained from the dried seeds and tops of a scentless variety of mignonette (Reseda Luteola), a plant which is native to Southern Europe (14).

Dyes obtained from flowers

1. *Saffron* is a dye obtained from the dried stigmata of a bulbous plant (Crocus sativus) which is thought to have come originally from the Levant. In early times there are records showing that this plant was cultivated for the purpose of extracting the yellow dye-material from the stigmata of the flowers. The town of Corycus in Silicia seems to have been a center for the production of saffron in ancient times, hence the probable origin of the term *crocus* which was given by the Latins to this plant. The superiority of Corycian saffron is mentioned by various ancient writers (15).

2. *Safflower* is a dye obtained from the flower of a composite plant (Carthamus tinctorius), a thistle-like herb which is native to Egypt and India. Its dried florets produce two distinct coloring materials, a yellow and a red, the latter having come into use in comparatively modern times.

Dyes obtained from stems and leaves

1. *Indigo*, one of the oldest dyes of which there exists any historical record, is obtained by the fermentive steeping of the stems and foliage of several species of shrubs belonging to the Indigofera family. The juices obtained from these plants are colorless when out of contact with air, but become blue by exposure to air. Fabrics dipped into the colorless juices become dyed with a permanent blue when they are subsequently exposed to the air. Pliny mentions this dye (Indicum) and describes it as being of vegetable origin (16). As to its exact source and its method of preparation for the market, however, this historian is not absolutely accurate, probably because of the fact that it was of decided advantage for those engaged in the production of this dye to surround its origin with the greatest possible amount of secrecy.

2. *Woad*. Described above.

3. *Cutch*, sometimes called catechu or gambier, is composed of the dried sap of leaves, seed-pods, nuts, and sometimes the wood, of various species of acacia, mimosa, and areca trees. Cutch is an Indian dye whose use was introduced into Europe during the early part of the sixteenth century, after the discovery of the sea route around the Cape of Good Hope. This dye is still in use for the production of shades of brown and tan on certain textile fabrics (17) (18).

Dyes obtained from wood

1. *Logwood* consists of a concentrated extract made from chips of the heart-wood of a large and rapid growing tree called the Campeachy (Haematoxylon Campechianum).

2. *Camwood* (sometimes called barwood) is a dye obtained by extracting a coloring principle from a tree (Baphia nitida) belonging to the family Leguminosae.

3. *Sandalwood* (or sanderswood) is a dye obtained from the wood of the trunk and roots of Pterocarpus santalinus, of the genus Santalum.

4. *Brasil wood* consists of the extract of the chipped heartwood of trees belonging to various species of Caesalpina, a type of tree which is native to the tropical regions of South America, Africa, and Asia.

5. *Quercitron* is a dye consisting of the inner bark of the Quercus tinctoria, an oak which is native to North America.

6. *Fustic* is an important dyewood, derived from a tree (Chlorophora tinctoria) which came originally from the East, but which has been naturalized in many parts of Europe (19).

Of the dye woods mentioned above, many of them are still of some importance. Logwood is still extensively used, particularly for the production of blacks on silk fabrics. Camwood and sandalwood, both of which produce reddish brown colors, have no extensive use at the present time. Brazil wood, used to produce various shades of pink and red, has been almost entirely replaced by synthetic dyes. Quercitron, a dye giving yellow colors, is not in such common use as it was a number of years ago. Fustic, used to produce tans, yellows, and shades of olive drab, still enjoys an extensive application.

Dyes obtained from Roots

1. *Madder* is a dye consisting of the ground cortex of the root of the madder plant (Rubia tinctoria). When this dye is fermentively steeped in water, it produces a bright red coloring matter. In very ancient times this dye was used by the natives of India, Persia, and Egypt. Herodotus (20) describes the outer garment of the women of Libya, a nomadic African tribe, as being made of hairless tasseled goat-skins, colored with madder. The "Rubia" of Pliny also is the ancient madder (21).

2. Tumeric (or Indian saffron) consists of the ground root of a plant (Curcuma tinctoria) which grows in China and the East Indies. It imparts a bright yellow color when applied to textile fabrics, the color, however, being exceedingly fugitive (22).

3. *Berberine* is a coloring matter which can be extracted from the root of barberry. It gives a yellow color to silk and leather (23).

Dyes obtained from lichens

Litmus, *orchil* (archil), and *cudbear* are dye materials obtained from certain species of lichen.

Dyes of animal origin

1. *Tyrian purple*, the finest and most costly of the dyes of the ancients, was first discovered by the Phoenicians. Much of the wealth possessed by the inhabitants of Tyre is said to have been derived from their sale of this rare and durable purple. This dye was derived from two species of Mediterranean shell fish, namely, the Murex trunculus, and the Murex brandaris. Biologically, the shell-fish from which this coloring matter is obtained secretes this material for purposes of defense (24). When attacked by an enemy, it gives forth a few drops of a colorless secretion, which, on exposure to light, undergoes a series of changes from colorless, through several shades of green and blue, finally developing into a deep, rich shade of purple (25). This coloring matter tends to stain the water and hide the animal's route of escape.

Many ancient writers relate a myth which describes the accidental discovery of Tyrian purple. The date of the discovery of this dye is believed to be about 1500 B. C. One account is related by Achilles Tatius (26).

In lamenting the great and irrecoverable fall of Tyre, the prophet Ezekiel (27) makes the following statement concerning the former wealth of that city: "Fine linen with broidered work from Egypt was that which thou spreadest forth to be thy sail; blue and purple from the isles of Elisha was that which covered thee." The island mentioned here as Elisha probably refers to an island in the Aegean Sea, whence many claim that the Tyrians obtained most of the shell-fish from which they secured their purple (28). Many other ancient writers, Homer (29), Ovid (30), Tibullus (31), Pliny the elder (32), refer to this monarch of all the dyes of early times.

As to the mode of extracting Tyrian purple from the shell-fish, there is much difference of opinion. In case the specimens were small it is probable that they were pounded in mortar-like pot-holes along the sea-coast, the shell fragments being subsequently removed, probably by hand, and the dye diluted with water (33). If the shell-fish were of a larger variety, the sac in the back of the neck in which the coloring matter is secreted was probably removed and its contents emptied and diluted with five or six volumes of water (34). An interesting discovery of the debris of a manufactory for Murex purple near Sidon has been made in modern times by Gaillardet. An immense quantity of shells was found, all of which were broken in the same way, probably by a sharp-pointed tool used to extract the animal (35).

2. *Kermes* is a crimson dye which is obtained from the dried insects (Coccus ilicis) which frequent the boughs of a species of the oak tree. The insects of this species lay their eggs in groups on the boughs of the tree. These become covered with a sort of down, so that they appear to be excrescences from the limb itself (36). The dye is procured from the female of the species, which, when alive, is about the size of a cherry seed. When dead, this creature shrivels up until it is about the size of a grain of wheat. The kermes is given the term "granum" by Pliny, probably because of its resemblance to grain.

This dye was known to the Phoenicians before the time of Moses. It was also known to the Greeks and Arabians. The term "crimson" is derived from the Arabian name of the insect, *kermez*. The crimson frequently spoken of in the Old Testament is supposed to refer to the color derived from this source. This dye was found to be in general use in Europe during the tenth century.

3. *Cochineal*, derived from the dried bodies of the females of Coccus cacti, was found to be in use by the inhabitants of Mexico at the time of the discovery of America. The insects are much smaller than those from which kermes is derived. Cochineal, like kermes, produces brilliant reds. It was introduced into Europe in 1550 (37).

Dyes of mineral origin

There is little evidence of the use of mineral dyes in ancient times. Insoluble mineral pigments were doubtless used for painting designs upon fabrics. At just what period of the world's history the practice was introduced of dyeing fabrics by introducing them alternately into the two or more solutions of compounds which react with each other to produce an insoluble colored compound is uncertain. Pellew (10) gives a brief discussion of the history of mineral dyes. In this discussion the production of *iron buff* by our own colonial ancestors is discussed. According to this authority, fabrics were colored various depths of tan shades by dipping them alternately into a solution formed by the action of vinegar on scrap iron and in a solution formed by the action of water on wood-ash-alkali.

REFERENCES

1. An Etomological Dictionary of the English Language, by Rev. Walter W. Skeat. See *color*.
2. Caesar's Commentaries on the Gallic War, Book V, c. 14.
3. The Americana Encyclopedia, Vol. 29, p. 434. See *woad*.
4. Smithsonian Report, 1895, p. 385.
5. The Origins of Art by Vrjö Hirn, Chapter XV.
6. Synthetic Philosophy, by Herbert Spencer, Vol. II, page 174–192.
7. Dictionary of Classical Antiquities, by O. Seyffert, revised and edited by H. Nettleship and J. E. Sandys. See *purpura*.
8. Creative Chemistry, by Edwin E. Slosson, p. 3.
9. The Bible, Genesis 49:1.
10. Dyes and Dyeing, by Charles E. Pellew, page 8.
11. The Americana Encyclopedia, Vol. 9, page 453.
12. Dyes and Dyeing, by Charles Pellew, p. 24.
13. Same as (11). See *annatto*.
14. Same as (11). See *weld*.
15. A Companion to Latin Studies, by J. E. Sandys, 2nd edition, p. 85.
16. Pliny's Natural History, Book XXXV, c. 6; also, Scotland and India, by W. Robertson (India, p. 85, 135).
17. The Americana Encyclopedia, Vol. 9, p. 453. See *cutch*.
18. Dyes and Dyeing, by Charles E. Pellew. See *cutch*.
19. Scientific American Supplement, Volume 84, p. 388.
20. Herodotus, Book IV, 189.
21. Pliny, Natural History, XIX, 17.
22. The Americana Encyclopedia, Vol. 9, p. 453. See *tumeric*.
23. Same as (22). See *berberine*.
24. The Shell Book, by Julia E. Rogers, p. 27–28 and 42–43.
25. Purple Dyeing Ancient and Modern, Smithsonian Report, 1863, p. 398.
26. The Adventures of Leucippe and Clitophon, by Achilles Tatius, Book II, 11, translated from the Greek by S. Gaselee.
27. The Bible, Ezekiel 27:7.
28. Forty Centuries of Ink, by D. N. Carvalho, p. 8.
29. Iliad VI, 286.
30. Ovid, The Heroides XII, 179.
31. Tibullus II–III, 57.
32. Pliny the Elder, conclusion to the Natural History.
33. Same as (24).
34. Purple Dyeing, Ancient and Modern, Smithsonian Report, 1863, page 396.
35. Globe (1874), Vol. XXVI, No. 15, p. 237.
36. Same as (28), p. 7.
37. Pliny, XVI, 12.

(To be continued)

TEACHING CHILD CARE IN SECONDARY SCHOOLS

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This subject may be considered from four standpoints: First, why teach child care in the secondary schools? Second, where should this subject be introduced? Third, who shall teach child care? Fourth, how shall child care be taught?

I. Why teach child care in secondary schools?

The modern conception of education toward which our schools are turning by slow but encouragingly persistent degrees differs from previous concepts of education in recognizing the cultural possibilities of the necessary and commonplace acts of life, and in giving over to the realm of science the homely, vital transactions of existence such as eating, drinking, toiling, and, very latterly, the basic matters of bearing and rearing children.

We are told that the death of women in child birth is the one unchanging cause of death of women between the ages of 14 and 45. More women in this age group die in child birth than from any other one cause except tuberculosis.

This is not all, nor is it the worst. Our infant mortality rates have rapidly fallen during the past ten years, but when we analyze the causes for the deaths of infants under one year of age we find one cause which remains significantly stationary, showing little or no decline throughout the registration area. This is the death of children before, at, or immediately following birth. Of all infants who die under one year of age, from 30–40 per cent die at birth or soon after from causes operative at birth. At least an equal number are still-born, and there are probably as many more innocently interrupted pregnancies which never reach the age of viability. This situation, when we once grasp its significance, approaches the dimensions of a social crisis.

We grope for a solution, and there are numerous factors involved in any complete solution. Probably all will agree that one of the most basic and urgent factors is the education of boys and girls for the vocation of parenthood.

The problem therefore before us is how to vitalize our scientific standards of maternal and infant health and crystallize them into simple rules of conduct which may be effectively taught to coming mothers of our country during the important years in which they are supposed to be preparing for the serious business of living.

II. Where should this subject be introduced?

The subject of child care should be introduced in the eighth grade at the latest, and there should be some anticipation of it in the seventh grade. There are two weighty reasons for this. The first is the fact that the large numbers of girls who leave school as soon as the compulsory education laws permit are in the main the girls who will marry young and bear and rear larger numbers of children than will the girls who go to high school and college. The second is that this is the psychological time to transfer the love of a doll to the love of a baby. The girl child manifests a maternal instinct in her play with dolls and "keeping house." We have not followed nature's lead even here or we might, I believe, teach the fundamentals of infant care in mother and baby play with dolls. Instead of this we let the baby mother imitate, in a futile, haphazard way, such activities of the home as strike her fancy, and, if she have the misfortune to be an only child or a youngest child, her doll is likely to be a proper and precise adult lady rather than a baby to be loved and tended.

As this child approaches adolescence, we shame her away from her dolls. Instead of keeping the maternal instincts awake by substituting the real baby for the doll, as would appear to have been nature's plan in the interdependence of the large, primitive family, we too often let these precious instincts fade and they become forcibly and sometimes agonizingly revived when the totally unprepared young mother helplessly holds her first babe in her arms. The pre-adolescent girl receives such simple facts concerning child bearing and child care as she is prepared to comprehend, with a naturalness and avidity which are difficult to revive or duplicate if too long a period is permitted to lapse between her dolls and this training.

III. Who shall teach child care?

There are at present about two possible answers to the question as to who shall teach child care: the school nurse or the teacher of home economics. Either one should be fully competent as far as knowledge of subject matter is concerned. Personality is of more importance than the amount of technical training, although the value of special training must not be minimized. Either the home economics teacher or the nurse may successfully teach child care to seventh or eighth grade and high school girls, providing she has the gifts of ideality and enthusiasm which will arouse a like attitude in her pupils.

IV. How should child care be taught?

Child care should be taught from the kindergarten up, at first through simple mother and baby play with dolls through which the child gladly receives suggestions as to what is good or bad for the baby. Later when "playing house," the second to the fourth grades, both boys and girls may learn the fundamentals of home sanitation, cleaning, and ventilation, how to dress, undress, and feed the baby. Fifth to sixth grade girls may begin to sew for the baby doll and learn particularly a few things about the growth, development, and needs of a real baby.

From time to time, if this is carried out in a natural and spontaneous manner, opportunities will arise through the questions of the children, to satisfy natural curiosity concerning reproduction. By the time the girl reaches the seventh grade she may practice dressing, undressing, bathing, and feeding the property doll in sickness and in health, and the doll more and more becomes to her a prototype of the real baby.

In the eighth grade more advanced work may be given, including causes of disease and illness; home nursing, and emergencies; public protection through birth registration and control of contagions.

In the high school, the social aspects of child welfare with some consideration of the principles of elementary child training may be added, with visits to health stations, hospitals, and day nurseries, and, when possible, demonstrations and practice on a real baby or at least on a good dummy. More advanced work in home nursing and the feeding and clothing of children will naturally fall within the scope of the high school home economics courses. Child birth should here have definite consideration.

It was a radical step when kitchens were put into schools; to the kitchen was soon added the dining room, then the bedroom and bath. The practice house was thought to be the last word in teaching homemaking. We now aspire to a nursery in every practice unit and already this has been achieved in a few instances. In certain instances a functioning day nursery has been added to the neighborhood school.

It is too soon to standardize this pioneer effort. For some time to come each teacher must make, to a large extent, her own courses and teach in her own way. This will eliminate the formal, unimaginative, rote-bound teacher.

To summarize: In teaching child care, we should follow the lead of the girl child's interest and teach through this interest from the first doll up through all her preparatory years.

Since we cannot do this at once, the subject should be introduced not later than the eighth grade and preferably in the seventh grade in order to replace the doll before the maternal instincts fade or become perverted into abnormal sex interests; and also in order to reach the girl who never enters high school.

The teaching may be done by the regular teacher in the lower grades and by the school nurse or teacher of homemaking in the upper grades.

The teacher must possess a strong maternal instinct herself and be able to put enthusiasm and idealism into her teaching.

For some time to come this teacher must make her own courses to fit the age and preparation of her pupils, and she should find her teaching material in the community and tie the work up as closely as possible to the homes and personal experience of the girls themselves. The equipment should be homemade and easily available.

This course should include instruction in the simple, fundamental facts of child bearing and reproduction, following, as far as possible, the lead of the spontaneous curiosity of the girls themselves.

The larger social aspects of the subject and the importance of vital statistics and state and local protection of maternity and infancy should be taught as fast as the girls acquire contacts upon which to graft such teaching.

IMPROVING METHODS OF TEACHING HOME ECONOMICS IN CONTINUATION SCHOOLS[1]

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I. NECESSITY FOR TESTING AND GRADING PUPILS

Pupils between the ages of 14 and 18 enter the part-time or continuation school at any grade from 6th to senior high school. Instruction based on the course of study is the same for all students entering

[1] Extracts from a paper presented at the Mid-year Meeting of the American Home Economics Association, Detroit, December, 1922.

the first year class, regardless of school age, or individual needs. Instruction planned in this way may be a repetition of the distasteful work which the pupil left school to escape; it may be more advanced than the pupil can undertake with profit; it may be so elementary that it arouses no interest.

Before the work of the part-time or continuation school can be planned to meet the needs of any boy or girl, it is necessary to determine what he or she already knows. According to modern educational procedure this can be determined only by accurate testing of students. This will include the giving of the Terman or some other intelligence test, and such achievement tests as Curtis arithmetic tests, Lewis English composition tests, Ayres spelling tests, or others equally good. Excellent scientific information tests and tests for skill in home economics subjects have been worked out for homemaking classes in Teachers College, Columbia University and in the University of Chicago. Both intelligence and educational tests are needed for proper classification. Intelligence tests measure the native ability of the pupil and indicate what rate of progress we may expect from him; achievement or educational tests show the school age of the pupil and serve to indicate in what class or group the pupil would derive the greatest benefit from class instruction.

For example, instead of giving all girls who enter continuation school the same elementary sewing problem, usually the making of a simple apron, why not find out first what the girl already knows about sewing? It is barely possible she needs no sewing instruction, she may be ready for advanced dressmaking work, or she may not know how to hold a needle or use a thimble.

Tests similar to the Murdoch Sewing Scale would show what sewing processes the pupil has mastered, what skill she has acquired, and what speed she has attained. Her first clothing problem would then be planned so that she may use what knowledge and skill she already has to guide her in solving a problem which requires additional skill and knowledge.

The use of tests in sewing raises the standard of the work and shows pupils the relative values of skill and speed and the proper emphasis which should be placed on each. Pupils are made to feel that the instruction is planned so that they may obtain knowledge about a subject and not so that they may make something. They are stimulated to work for definite results.

II. METHOD OF INSTRUCTION

The first point, then, which must be considered in the discussion of methods of teaching home economics in continuation schools is the basis on which students are classified. Several plans are in operation which make provision for meeting students in groups and for giving instruction to the mental capacity of each member of the group. Briefly stated these plans are:

(1) The supervised study plan through which part of the time is devoted to class recitation and instruction and the remainder to study done under supervision; (2) the extra work plan through which recitation and class instruction are given only to those who need it and additional tasks are assigned to capable pupils; (3) the monitorial plan through which the class is divided into groups according to ability and a leader is appointed for each group from among the members; (4) the individual instruction plan which practically abolishes class instruction and substitutes individual teaching according to the needs and ability of the pupils. This plan is the one suited to continuation school classes as they are now organized. It is open to but one criticism by educators, that is, that it "removes a large share of the social stimulus and interaction that is derived from class instruction." This objection is overcome when class presentation and class discussion of the core of the lesson preceded assignment of work. The only other objection to the individual instruction plan is that it entails a large amount of work on the part of the teacher. Any well planned lesson, however, is open to the same criticism.

III. PLANNING THE LESSON

Every lesson plan prepared by a teacher consists of two distinct parts, the teacher's plan for presenting the lesson to the class and her plan for student participation in the lesson.

The teacher's plan consists of: a statement of the objectives or aims of the lesson; an analysis of what must be known and done by the pupils to accomplish the aim; a summary of what pupils already know about the lesson and what they are able to do; a plan outlining what remains to be taught and the method of teaching it.

The teacher's plan for student participation in the lesson consists of: a plan for class activity through socialized recitation, drill and testing of

knowledge, directed study, demonstration or laboratory work, so that the pupils accomplish the aim of the lesson by clear independent thinking, right methods of work, the application of right principles and evaluation of results; preparation of individual instruction sheets if material is to be presented for individual work.

IV. THE UNIT INSTRUCTION SHEET

The unit instruction sheet is for the use of the student after the teacher has presented the lesson to the class and class discussion has followed. All material placed on the sheet should be of such nature and in such form as to result first in independent thinking and then in doing. The essentials of a unit instruction sheet are: 1. A clear statement of the aim or objective of the lesson so that the student will know what he is to accomplish. 2. Specific directions for procedure to accomplish the objective. These may be worked out by the advanced students. 3. Statement showing equipment and materials needed to accomplish the objective (made out by pupil). 4. Questions concerning methods of procedure which will compel students to seek for the best methods. 5. Questions concerning the underlying principles in science or art which must be known to accomplish the objective. 6. Available references listed so that students may find needed information. 7. Questions which show the relation of the lesson to life problems or situations or vocational guidance questions. 8. Related problems in arithmetic, English, hygiene, or civics inserted when the pupil is interested in the lesson to show the need for what is called "general education" if one is fully to master a problem.

In summarizing the discussion of the form of assignments on individual instruction sheets it is evident that these sheets are specific assignments of educational problems requiring solution by the student. They are not teacher's lesson plans. The first sheets placed in the hands of the student should give explicit directions for work and study; succeeding sheets should require the student to assume the responsibility for solving the complete problem. They must afford the fullest possible opportunity for self activity on the part of the student, if they are to be other than mere factory job sheets.

ORGANIZATION OF HOMEMAKING COURSES IN COUNTRY HIGH SCHOOLS AND RURAL ELEMENTARY SCHOOLS[1]

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A homemaking course for country high schools and rural elementary schools presents many difficulties. These schools are limited as to equipment: they have young, inexperienced teachers, and there is constant change of the teaching force.

There is some difference of opinion as to the grades that should include regular home economics classes. Many country schools divide naturally into two groups; the first six, and the upper five or six grades as the case may be. Special teachers are usually provided for the high school grades and it is very easy for these teachers to reach down into the seventh and eighth grades. If agriculture and manual training are provided for the boys it includes these grades. The students are at the right age for boys and girls to have different lines of work. Below the seventh grade some provision should be made for boys and girls alike, giving them such phases of homemaking as are of common interest.

The number of subjects required in each grade makes it advisable to plan for only two double periods and one single period per week for the seventh, eighth, ninth, and tenth grades. Home economics training offered in the third and fourth year high school, as an elective in large county schools, will provide for those groups desiring intensive training in homemaking.

In arranging work for any grade, sufficient subject matter and skill should be centered around the outstanding home occupations, in order that the girl may feel that she is accomplishing something specific. Since country girls do not drop out so frequently as boys, longer units of study may be arranged for them.

If sewing and textiles with associated phases of homemaking are selected for the seventh grade, the plans for the lessons in garment making may center around the girls' needs: their needs will show little variation. Problems in home management will develop in making cup towels, curtains, and other things needed for the school and for the home, together with the usual exercises. Much work can be done in selecting and testing materials, care and laundering of materials, care of school sick room, the girl's own bed room, keeping accounts, and comparing finished gar-

[1] Presented at the Mid-year Meeting of the American Home Economics Association. Detroit, December, 1922.

ments with ready-made garments. Displays of finished articles create interest. Christmas presents make an excellent exhibit. Finished dresses labeled with the cost of material and time given to construction, may be worn at some public function or school assembly.

Foods and cookery for the eighth grade may center around food needs, habits, care, and cost. Preparation of family portions to be sold in hot lunch rooms, keeping records of cost of food, assisting with nutrition classes, preparing and serving meals for special occasions, and care of the sick afford opportunities for vitalizing subject matter. The ninth and tenth years should go more fully into the subject matter, using home projects whenever possible.

In order that planning in isolated schools may not be wasted, some plan for the county, which is the unit of school administration, should be used. The county home demonstration agent, usually a woman trained in home economics, with some teaching experience, is the most available person to meet this need. Her work with the girls' and women's clubs gives her a knowledge of the home life and keeps her in contact with the county as a whole. Much of her work, such as health campaigns, nutrition classes, canning for conservation, and encouraging rest rooms and hot lunches for schools, brings her constantly in connection with the home economics teacher.

Most states have a vocational home economics supervisor with a number of teachers under her direction working out a course of study for the state. These groups will stabilize home economics subject matter.

TEMPERATURES FOR CANDIES AND FROSTING SYRUPS AT ALTITUDES ABOVE SEA LEVEL

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University of Wyoming

Those who have had considerable experience in making icings and candies use successfully the various household tests for indicating the point when the syrup has cooked to the degree of concentration desired. It is not easy to describe, in writing, the changes in appearance or sound of the boiling syrup so easily detected by the experienced candy maker. In all exact work the thermometer is used to determine the point at which

the syrup is at the right stage; also, for the inexperienced, the use of the thermometer gives the best results.

Different degrees of softness are preferred for different purposes and under different conditions, as is shown by the following temperatures suggested by various authorities for use at sea level, as corresponding to the household tests ordinarily used.

TABLE 1

TEST	DEGREES C.	DEGREES F.
Thread	102 to 113.33	215 to 236
Soft ball	112 to 117	233.6 to 242.6
Hard ball	118.9 to 123.5	246 to 254.3
Crack	126.7 to 135	260 to 275
Hard crack	143 to 154.4	289.4 to 310
Caramel	148.9 to 176.7	300 to 350

This table shows that the temperature used for the soft-ball stage ranges through 5 degrees Centigrade or 9 degrees Fahrenheit, and that the other tests used in sugar cookery also cover a range of several degrees; therefore, directions which say "cook to the soft-ball stage" or "to the hard-ball stage," cannot be expected to insure uniform results in all cases.

Since boiling points vary with the altitude, and since the boiling points of solutions do not drop parallel with the boiling point of water (i.e., vapor pressure curves of solutions are not parallel with that of water), we undertook as our problem, to plot approximately the vapor pressure curves, at various altitudes, of sugar solutions of the degrees of concentration indicated by the household tests, in order to make it possible to take the sea level temperatures given as end-points for various products, as a basis for fixing the corresponding temperatures to be used at any given altitude.

The work done with pure granulated sugar (one cup), water (one-half cup), and cream of tartar (one-eighth teaspoon), was repeated using a mixture of sugar and white corn syrup (1 tablespoon to 1 cup of sugar) to see if the same temperatures could be used with either of these mixtures. We found that they could.

The description of what is meant by each of the household tests used in sugar cookery varies with different authorities. In our work the soft-ball stage includes all syrups which are of such a concentration that they could be used for making fondant. Syrup at the lowest temperature at which it can be used for fondant, when dropped into cold water (15

degrees, C.) forms a very soft ball which when taken out of the water cannot be held in shape. Syrup at the highest concentration at which it would be likely to be used for fondant, forms in cold water what some persons might call a hardball. It is difficult to define the difference between the soft ball and the hard ball; but we take as the beginning of the hard ball stage the point at which the syrup could be used for making a taffy which can be pulled with the fingers. Here (altitude, 7250 ft.) this is 110°C., though 115°C. gives better results for taffy, and taffy may be made from syrup which has been cooked above the crack stage. The crack as we understand it and discuss it, is the point at which the syrup when chilled in cold water (15°C.) can no longer be molded into a ball; instead, it cracks when chilled. The hard crack is the point at which the syrup when poured into cold water cracks at once.

Caramelization is due to burning or the breaking down of the sugar molecule by heat. It gives at first a slight color to the syrup, which color grows deeper as more and more sugar burns. The point at which caramelization begins is not easy to determine. Variations in the amount of light which falls on the syrup while it cooks, in the color of the light, and in the color of the vessel in which the syrup is cooked tend to confuse the observation. In some pans the syrup scorches very rapidly in the bottom. Changes in altitude do not affect this burning point or point at which caramelization begins. Sugar caramelized to different degrees may be mixed with syrup in different proportions and thus used to secure any desired flavor; therefore the temperature indicating this stage is not of great practical importance.

By repeated trials with cream of tartar and with corn syrup, we established the following temperatures (see table 2) for the different stages as defined above, at the University of Wyoming (7250 ft.):

The thread is usually given as preceding the soft ball stage, but we never got the thread below 103°C. We learned by correspondence, that at the State College of Utah the temperature at which the syrup threads is considered to be higher than that at which it forms a soft ball. Since the thread stage overlaps the soft ball stage and since it is not often used, we do not give, in Table 3, the temperatures corresponding to this test.

The next step in this study was to find what temperatures were used in altitudes intermediate between sea level and our own. Table 3 summarizes the data received from the departments of home economics in the colleges or universities of the mountain region, and compares them with the temperatures determined by us and with those used at sea level.

It will be seen from table 3 that we did not obtain data for altitudes between 700 and 2500 feet, nor for altitudes between 5347 and 7250 feet.

Our next step was to plot these temperatures against the corresponding altitudes. We first plotted roughly the vapor pressure curve of water and then our data for sugar solutions of different concentrations. If a straight-edge is laid on the V. P. curve for water, it will be seen that while it may appear at first glance to be a straight line, it is in reality a flat curve. (See page 123.)

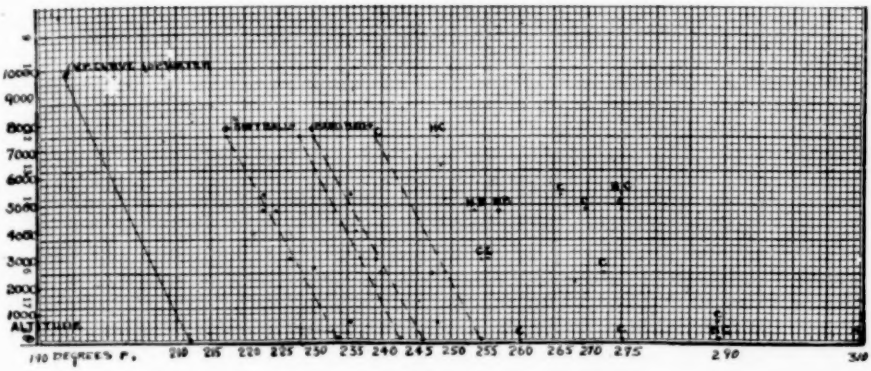
TABLE 2

TEST	DEGREES C.	DEGREES F
Soft ball	103 to 109	217.4 to 228.2
Hard ball	110 to 115	230 to 239
Crack	115	239
Hard crack	120	248

TABLE 3*

PLACE	ALTITUDE	TEMPERATURE CORRESPONDING TO:							
		Soft ball		Hard ball		Crack		Hard crack	
		°C.	°F.	°C.	°F.	°C.	°F.	°C.	°F.
	Sea level	112 to 117	233.6 to 242.6	118.9 to 123.5	246 to 254.3	126.7 to 135	260 to 275	143 to 154.4	289.4 to 310
University of Missouri	700	113	235.4	120.0	248	143	289.4	155	311
State College of Washington	2500	110.5	230.9	115:5a to 119.5b	239.9 to 247.1	133.5c	272.3		
University of Idaho	2700	110	230						
University of Montana	3000	108	226.4	115	239.0	123.5 to 124	254.3 to 255.2		
Agricultural College of Utah	4768	106 to 107	222.8 to 224.6	123b to 125	253.4 to 257	132 to 135	269.6 to 275		
University of Colorado	5347	106	222.8	113d	235.4	130d	266	135d	275
University of Wyoming	7250	103 to 109	217.4 to 228.2	110 to 115	230 to 239	115	239	120	248

a, temperature used for caramels.
b, temperature used for taffy.
c, temperature used for brittle candy.
d, results of class tests. Miss Williams, who furnished these data, doubts the accuracy.
* A number of institutions failed to reply; others did not use temperatures.



DISCUSSION

1. All but two of the points indicating the soft ball stage lie between two straight lines, the first of which connects the lowest temperature used at sea level with the lowest temperature used at 7250 feet, and the second of which connects the highest temperatures used at these altitudes. The two points which are not between these lines may perhaps be interpreted as indicating a slight tendency toward a curved boundary line on the side indicating lower temperature limits for the soft ball zone.

2. The oblique lines bounding the soft ball zone are not parallel with each other or with the V. P. curve for water, but they are nearly so. If fondant can be made at sea level from a syrup cooked to a temperature lower than 233.6 these three lines would be more nearly parallel.

It is possible that, since the different stages are not well defined, fondant produced by cooking syrup to a temperature less than 233.6 would correspond to our softest fondant. In order to be certain, the same person would have to make fondant at the different altitudes.

3. Two of the points indicating the hard ball stage lie to the left of a straight line drawn between the temperatures indicating the beginning of the hard ball stage at sea level and at an altitude of 7250 feet. Again, this suggests a curved boundary line.

4. The straight line drawn between the upper limits of the hard ball stage at sea level and at 7250 feet is nearly parallel to the line between the lower limits at these two points.

5. If fondant which may be considered to have reached the hard ball stage can be made at less than 246°C., at sea level, as we might find to be the case for what we consider the lower limit for the hard ball, then the lines indicating the upper and lower temperature limits of this stage would be more nearly parallel.

6. These lines for the hard ball stage are nearly parallel to those for the soft ball stage and to the vapor pressure curve for water.

7. The points given for the hard ball stage at 4768 feet are far outside the upper and lower limits of this stage at other altitudes. As will be seen from the table and the discussion which has gone before, these points, while sent to us as indicating the hard ball stage, actually are used for making taffy. Since we have found that taffy may be made above the point at which we get the crack, here at 7250 feet, it may be that these two erratic "hard-ball" points are actually above our standard for the lowest cracking point. This discrepancy may then be interpreted as due to a difference in definition of standards.

8. The points plotted for the crack and hard crack are so scattered that it is impossible to determine the boundary lines of any definite zone in which they might be considered to be located, in the same way as we have been able to do for the two stages previously considered.

9. There seems to be a slight tendency as the altitude increases, for the V. P. curves for the different degrees of concentration of sugar solutions to approach the V. P. curve for water.

In connection with the study of the chart and the table, we must consider the following points:

1. It is certain that a number of different standards exist for the stages known as "soft ball," "hard ball," "crack," and "hard crack."

2. After the lowest point at which the test for the "crack" stage is reached, this test continues to apply to all concentrations of sugar syrup up to the point where the sugar is badly burned.

3. The soft ball stage is probably used more frequently in household cookery than the others, and the hard ball stage more frequently than the crack. This may explain why there is more uniformity as to what constitutes a soft ball than there is as to the meaning of hard ball, and better agreement as to what is meant by hard ball than by crack.

In view of all the points discussed, we suggest that if a temperature is known to be satisfactory at a certain altitude for a certain candy or icing, probably satisfactory results would be obtained at other altitudes by decreasing this temperature one degree Fahrenheit (1°F.) for each 500 feet increase in altitude, or one degree Centigrade (1°C.) for each 900 feet increase in altitude.

At Teachers College there have been established denfinite standards for optimum temperatures to be used in making various candies. In part II of "Making Cake," the Cornell Reading Course, directions, including temperatures, are given for making frostings. Following the rule suggested for changing the temperature with altitude, we have had successful results at this altitude with recipes from these sources.

TEN SUGGESTIONS FOR THE CONSERVATION OF GAS DURING HOUSEHOLD COOKING PROCESSES

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Note: Originality is not claimed for all of these observations, yet they are in most cases founded upon experimental work done by the author and Anna P. Warren in the Experimental Kitchen, on four gas stoves of differing types, with seven different ovens, at varying gas pressures. An account of these experiments, covering twenty typewritten pages, describing a selected list of about 100 cooking tests, including the gas consumption records for each test, is on file in the Office of Home Economics, U. S. Dept. of Agriculture.

The ten suggestions which we have selected as the simplest and most effective means by which gas may be conserved, are these:

1. By using the right burner. There are three kinds of burners on most gas stoves, not including the oven burners. One of these is larger than the others, and it is called the giant burner. It should be used only when a dish with a very large bottom is used for cooking, or under those circumstances in which a small saving of time is much more important than saving of gas. The giant burner often uses 50 per cent more gas than do the other burners which are similar in shape and design but of a slightly smaller size; and yet it does not, as a rule, cut down the time of cooking sufficiently to make up for this larger consumption of gas.

The simmering burner is so important as a conserver of gas, that it should have a chapter all to itself. In the first place it should be so constructed that it does not cause a deposit of soot or smoke on the bottom of the utensil, even when turned low. It should then be used, as far as possible, for the continuance of all cooking operations which are done by the use of boiling water, such as the cooking of many vegetables. The preliminary process of bringing the water to the boil must, of course, be accomplished over one of the larger burners; as soon as the water has resumed boiling after the vegetables have been put in, the vessel should be placed over the simmerer. If the simmering burner is wisely designed and properly constructed, a pot containing an amount of vegetables suitable for the family of average size, will continue to boil even after the simmerer has been turned down somewhat.

Do not forget that *the simmerer is by far the best gas-saving device on the ordinary range.* Use it instead of the larger burners, whenever possible.

2. By turning the gas down at the proper time. Since only about 10 to 20 per cent of the time spent in ordinary cooking operations is employed in bringing water to a boiling temperature, and since a quarter or even a sixth of the heat applied when the burner is turned on at "full heat"

is often sufficient to maintain a boiling temperature, it follows that the burners should be turned down to this point for about 80 to 90 per cent of the time. The amount of gas required for the cooking operations of one day, when this rule is observed, is less than half of what it would be if the gas were left turned on full or nearly so, during the entire time of the cooking operation.

The amount of gas which may be saved by turning the burner down, even when using the simmerer, is shown in the following illustrations: When using a manufactured gas having a fuel value of about 600 B. T. U. per cubic foot, at a pressure of 3 inches, with certain types of stoves, the ordinary star burners use about 12 to 14 cubic feet of gas per hour when turned on full, the giant burner uses about 18 cubic feet, and the simmering burner uses about 3 to 4 cubic feet. It should be possible to turn the ordinary and giant burners down to the point where they consume not more than 3 cubic feet of gas per hour, and yet "keep the pot boiling"; the simmering burner should be capable of performing the same task, when turned down so that it uses only half that amount of gas. Unfortunately there is only one simmering burner provided on most stoves. The importance of keeping the larger burners turned down is therefore all the greater.

3. By keeping the burners clean and in good condition. If some of the gas ports are imperfect or are stopped with soot or grease, so that the gas does not produce a clear blue flame of uniform height in all regions, then the burner cannot be turned so low as would otherwise be the case. Moreover, combustion is less perfect when the flame becomes yellow, and this may cause an increase in the amount of gas needed.

4. By adjusting the air shutters properly. Each burner requires not only a supply of gas but also an ample supply of "fresh air" (oxygen) in order to burn this gas. In most cases there is an adjustable shutter near the cock where the gas is turned on; this shutter is usually held in place with a screw, which may easily be loosened by using a screw driver. Loosen this screw, light the gas, and turn the shutter until the flame burns blue, with as little of the yellow or orange tipping as possible. However, the flame should not be so short that its tip fails to make contact with the bottom of the vessel nor so long that it plays about the sides of the vessel. When properly adjusted, replace and tighten the screw so as to hold the shutter firmly.

5. By seeing that the burner is set as close as possible to the vessel in which the cooking is done. As a rule, a distance of one to one and one-half inches is as much as should be allowed for the space between the bottom of

the vessel and the upper surface of the burner. Those stoves whose burners are set two, three, or four inches below the vessel are extravagant users of gas. As has already been stated, long flames are not desirable. These statements apply both to manufactured and also to natural gas.

6. By proper use of a fireless cooker. A fireless cooker is a gas-saver if it is properly used, but not otherwise.

When the fireless cooker is used for cereals, or for tough meats and vegetables, care should be taken to see that the amount of gas used in heating radiators and food before these enter the cooker is not greater than that which would be used if the food were cooked over the ordinary star burner well turned down or over the simmerer. It must be borne in mind that the star burner uses about five times as much gas when on full, e.g. in heating a radiator, as when properly turned down to maintain a boiling temperature, and that the simmering burner can be turned down so as to keep water boiling with about one-tenth of the amount of gas needed to supply the ordinary star burner when it is burning at full capacity.

7. By proper use of the pressure cooker. The pressure cooker is a most efficient fuel-saver for the cooking of tough meats, dried legumes, and certain cereal preparations.

8. By use of the hooded "fireless" gas burner. The hooded fireless burner manufactured for certain types of "fireless" gas ranges is an even better gas-saver than is the ordinary simmering burner. In the use of this device, the food is put over to cook as usual, and the insulated hood is lowered over the vessel in which cooking is done, in such a way that there is about an inch of space open at the bottom for the necessary ingress of air, yet the waste heat from the current of heated air rising about the vessel warms the hood. When the short preliminary heating process is over, the gas is turned off, and the hood is still further lowered so as to enclose the space about the vessel and prevent loss of heat. This "fireless" device has several advantages over the ordinary forms of fireless cooker; one of which is due to the fact that the inside of the cooker is warmed by "waste" heat which would otherwise escape during the cooking operation.

9. By the use of an efficient oven for baking. The most extravagant user of gas in connection with the household range is the ordinary cheap oven. The oven burners may use 40 and 50 cubic feet of gas per hour, at the higher pressures, when turned on full. Heating this oven is like pouring water into a leaky vessel; the large proportion of heat lost by radiation

and convection constitutes the leak. Insulation between inner and outer walls does much to prevent this waste, even though nothing more than asbestos paper one-eighth inch thick be used; but a better and thicker insulation layer is desirable especially in the walls of a large oven.

Probably most of us realize the fact that baking small amounts of biscuits, muffins, potatoes, and other products at comparatively high temperatures for a short time in a large oven is rank extravagance in the use of gas. The purchase of a small portable oven to be used over a top burner, for all baking operations which do not fill the larger range oven, is a true economy. Several types of small portable ovens may be obtained. Double walls and some insulation should be insisted upon.

For more extensive baking operations, the purchase of a first-class range having a heavy, well insulated, direct action oven, such as that seen in some "fireless" gas ranges, is dictated by good judgment. It must be remembered, however, that not all "fireless" stoves are equally good; good design and construction must be secured, if superior results are to be attained.

10. By use of low or moderate, instead of high baking temperature. This principle applies to almost all baking operations, except in case of pastry and for the oven searing of roasted meats.

When using the uninsulated, indirect-action oven, it was found that about twice as much gas was required to heat the oven to 400°F. as to 300°F., and about twice as much to heat it to 500°F. as to 400°F. This gas was burned before the baking operation had begun, in the case of those food products put into a hot or moderately hot oven. In our experiments with such products as pies, puddings, muffins, biscuits, and potatoes, the gas used for pre-heating the uninsulated range oven to 400° or 500°F. was ordinarily 50 per cent of the entire amount of gas used during the baking operation. Yet the saving in time due to putting these foods into a hot rather than a moderate oven, is not great enough to compensate for the extravagant amounts of gas required to pre-heat the oven to the higher temperatures. There can be no doubt that most of our baking could be done at much lower temperatures than those commonly employed, particularly if ovens of good construction were used. There is no doubt also, that many, though not all, foods which are to be baked, could be inserted into a cold oven or into one which is nearly cold; thus the food gets the benefit of a certain proportion of the waste heat eliminated while pre-heating the oven to the desired baking temperature, and the baking begins sooner than would otherwise be the case.

CHILD NUTRITION AND DIET[1]

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Malnutrition is a term used very broadly for all sorts of divergences from the normal in physical and in mental vigor, but in the growing organism its most common manifestations are interference with growth and lack of resistance to disease. Children who are malnourished agree in being below par in general physical and mental strength, but differ much in the precise nature of their symptoms, so that it takes a skilled diagnostician to detect and interpret all. With few exceptions, they show disturbance of the normal weight curve, and I believe, if we had ideal standards by which to judge, all of them would show weight disturbance. For we find, in the case of the laboratory animal whose weight curve we know the best, the white rat, that growth is a very delicate index of the state of nutrition. Not invariably but very frequently disturbances in weight antedate the onset of infections or recognizable nutritional diseases.

In the case of the child, we have not yet secured such standards by which to measure growth as we have for the rat. For the infant the growth curve is fairly well defined. As the child grows, the variability increases, being about two and three fourths times as great at seventeen years as at six, so that it will not be possible to determine what is ideal weight for a given child until we have growth curves for various types, covering the main causes of variability. Weight is affected more quickly than height by the numerous factors which may interfere with normal nutrition, i.e. poor heredity, physical defects, bad hygiene, inadequate or ill-assorted diet, latent or incipient disease and sequelae of acute diseases, and we are inclined to regard height as more directly the result of heredity. But it must not be forgotten that the sins of the fathers may be visited upon the children and short stature as a racial characteristic be developed by some unfavorable condition of diet or environment or habit. While for the time being we agree with the recent report of the Committee on Statistics of the New York Nutrition Council in saying, "It seems illogical to expect a child of Italian parents, living in a congested district of New York City to conform to a norm made up largely of

[1] Presented at the Fifth Annual Meeting of the American Dietetic Association, Washington, D. C., October, 1922.

children of English, German, and Scandinavian stock," it is well, on the other hand, to bear in mind that we do not know the growth capacities of some of these short-statured peoples.

Holt calls attention to the fact that during the first year of life there is almost no difference in the height-weight curves of Japanese and American children, while later the divergence is striking. The Statistics of the Japanese Education Association of America (cited by Holt) compared with those of the Education Department of the city of Tokio show that Japanese children in the United States, both boys and girls, are taller and heavier than those of corresponding ages living in Japan. Holt also cites similar personal observations made with reference to Russian Jews and Italians. That we are still far from realizing the physical possibilities of the human race, even when people seem to be well and even fairly vigorous, is strongly suggested by certain laboratory experiences. Sherman has reported experiments with two groups of animals in which the heredity, age, and environment were all the same, and both on diets that were adequate in the sense of supporting normal growth in the first generation and also in the second. In both groups there were good-sized healthy litters of young, but on one diet there was a larger number of young born and a larger percentage of those born were reared; there was a higher average weight of the young at standard weaning age, and a more economical utilization of the calories of food consumed. If such results are obtainable when only one factor influencing nutrition is improved, what may be done for people whose lives are bettered in more than one way?

Height and weight are not stressed because size is valued for itself, but because progressive changes in height and weight are indices of normal growth and many studies of children tend to show that fine physical development is a valuable asset. In fact much of our present agitation for better nutrition of children is the result of school surveys which reveal that the physically unfit are handicapped in school progress.

As long ago as 1910, Sill, having studied 1200 malnourished school children of New York City and having made a special dietary study of the families of some 28 of these, writes as follows: "That improper and unscientific feeding of children from the time of birth to maturity is one of the most fruitful causes, both directly and indirectly, of disease, disability, incapacity for work, both mental and physical, loss of energy, susceptibility to contract and inability to withstand disease, everyone who has had wide experience must admit. . . . . All of these

children are easily fatigued, both mentally and physically and have not the capacity for work that we see in well nourished children. Improvement must begin physically before any marked improvement can be made mentally, morally, or spiritually, and physical development depends upon the right nutrition of the body." A recent study of New York City schools shows the better school progress of the well nourished children quite distinctly, the well nourished having an advantage of 3 or 4 per cent in grade progress. The survey of the Detroit schools in 1921 shows that, of the 41,151 boys examined, the weight of boys retarded one year was 1.5 per cent below the average for the grade and the weight discrepancy increased with each year of retardation. On the other hand the weight of boys accelerated one year was 2.6 per cent above the average weight for grade, while the still more advanced boys showed greater physical advantage.

It is not the purpose of this paper to review or discuss all the factors which may contribute to malnutrition in children. Practically anything causing a disturbance of normal function may do it—poor eye sight or body mechanics, a defective respiratory tract, a defective heart, poor digestion, poor teeth, fatigue, bad mental states, septicemia from latent infections, anaphylactic reactions to food are all commonly discussed causes of this lack of full physical vigor which does not manifest itself as an acute disease. Indeed, some go so far as to think that food has very little to do with malnutrition, there being so many other causes apparent.

But correlation between defective teeth and poor nutrition has been observed and commented upon and the evidence is accumulating that the main cause of defective teeth is an inadequate diet. The quality of a child's first teeth is practically determined before birth, and the formation of the enamel of all but the second and third molars of the permanent set is said to be completed before the end of the 5th year. A good diet for the mother and the young child and freedom from infections (much more likely if the diet is adequate) seem to be the essential factors in good tooth production. Plimmer in his "Vitamines and the Choice of Food" tells of the Island of Lewis in the New Hebrides where many of the people live in "black houses"—no windows or chimneys, walls blackened by smoke and devoid of sunshine, the babies seldom carried out of the house; yet the infant death rate is low (40 per thousand), rickets practically unknown, and the people have perfect teeth (without toothbrushes). The common foods are fish, oatmeal, and eggs. A favorite dish is the oily liver of the cod fish mixed with oatmeal and milk and cooked in

cod's heads—one head for each member of the family. McCollum believes with May Mellanby, that the chief factor in good tooth production is not the softness of the food, but the chemical composition of the diet, and bases his conclusions on results with diets comparable as to softness but varying in composition. Howe's work on guinea pigs deprived of vitamins is additional proof of the influence of diet on teeth. Howe found a condition akin to pyorrhea, which advertisements say hits "four out of five over forty." Furthermore, Cohen, of Howe's clinic, reports findings on 176 immigrant children of various nationalities who had been in this country less than four weeks, none of whom had so much as seen a tooth brush; of these, 30 per cent had perfect mouths, 30 per cent had nearly perfect mouths, a really bad mouth was rare in the remainder. An equal number of American children, well cared for, with "physiologically clean mouths" not malnourished, showed 80 per cent in need of immediate treatment.

The main reason why diet is not appreciated as a factor in malnutrition is that in the human species growth is so slow. It is hard for people to think that whether a child's teeth are to become carious or not is almost settled before the eruption of the first permanent tooth. When a child is half grown it is too late to get the best results. One is reminded of the retarded motion picture in thinking of the influence of diet. The picture begins to appear on the screen. You are told that the athlete is jumping a hurdle. It is hard to believe; one foot is put out so slowly you can hardly see it move, the other follows long after, then a period of sailing through the air and a descent like dew from heaven; you would hardly know what it is all about had you not seen the rapid action first. To see the effect of diet, we need some way of speeding up the retarded motion picture known as human life. The best method we have so far discovered is to study a more rapidly growing animal. The white rat is ideal for this purpose. It grows thirty times as fast as a human being, and we can witness all the changes of its life cycle within three years, and the completion of its growth within a few months.

I have already referred to Sherman's experiments on two similar diets both good for the first generation but one proving more efficient than the other when subjected to the test of several generations. Sometimes the really less valuable diet seems to have the advantage for a time. We have been feeding some animals bread supplemented by various single foods such as milk, egg, spinach, meat. All are weaned at a standard age, environment and heredity are the same, but they are far from uniform. Their weight curves if translated into the life of a baby would show that

up to the age of nearly five or six years the meat-bread diet was having the advantage. Then they cease to grow. They have thin hair, long bodies and big ears, and as they get older, disturbances of their joints, elongated teeth, and finally bones so soft and bent that they are entirely crippled as to their legs, and even their spinal columns are badly bowed.

Such striking differences in the effect of different diets have stimulated investigation as to the rôle of every known dietary essential and each investigation serves to impress the importance of the so called "balanced" diet rather than to emphasize any one constituent. Shortage of any single essential of the ration is detrimental to nutrition, both directly by limiting growth from mere shortage, and indirectly by interfering with the efficiency or economy with which other components of the diet are used.

A full supply of energy is indispensable, but even calories may be utilized more economically if the diet is liberally supplied with vitamins. This is illustrated by the experiments of Sherman already referred to in which the calories of the ration with the larger amount of milk resulted in greater growth for each calorie fed. While calorie shortage is not the only cause of undernutrition it is well to remember, in comparing the effect of two foods added to children's diet (as, for instance, some recently reported studies on sweetened condensed milk and whole fresh milk), that increases may be due to the extra calories provided and such experiments offer no evidence whatever as to just how much the one food or the other really contributes to the diet in addition to calories. That must be determined by more refined methods.

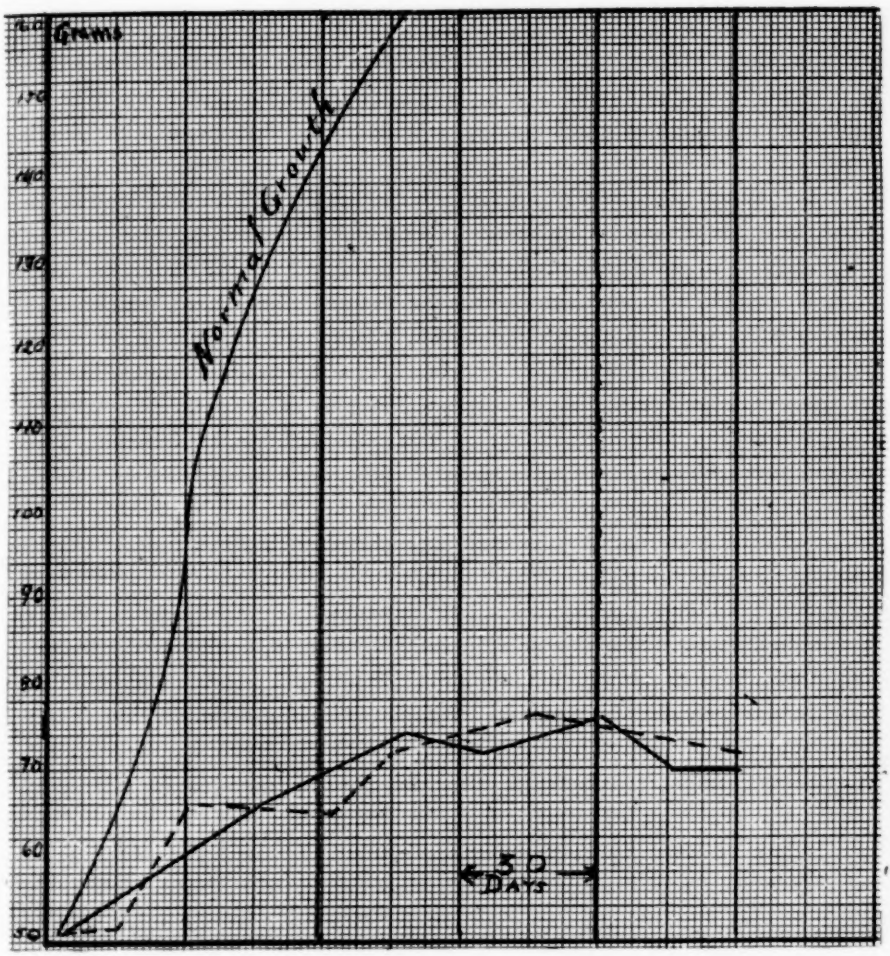
For undernourished children the energy demands may be considerably above the average for normal children, as shown by Oleson, Nelson, and Blunt's studies of basal metabolism of underweight children. Twenty-three underweights showed increases ranging from 5 to 41 per cent with 19 of them showing 15 per cent or more. For such children very liberal energy allowances seem necessary for gains in weight.

The sources of the calories in children's diets are also worthy of consideration. Talbot says good nutrition can often be secured merely by improvement in the proportions of protein, fat, and carbohydrate in the diet. The protein should be liberal but not excessive. At best, very high protein is uneconomical and means a wasteful use of calories. The desirable upper limit seems to be about 15 per cent of the total calories. The fat should be sufficient to prevent a child feeling hungry all the time, but not so much as to retard digestion unduly. A Chinese teacher of experience now studying in this country recently remarked

that the Chinese children eat all the time; one cannot but wonder whether the small quantity of fat in their diet is not one of the reasons. If the carbohydrate part of the diet is disproportionate, there is danger of digestive disturbances from fermentation. Furthermore, the carbohydrate-yielding part of the diet is likely to be largely starch and sugar, and to carry with it less than needed of other foodstuffs such as vitamines and ash constituents. The diet may also be lacking in ballast. The intelligent and observant matron of a children's institution says that she has to restrict the use of bread, or all her children would have constipation. Recently the author had an opportunity to analyze the diet of a boys' institution where the management had great difficulty in getting the boys to eat freely of any food but bread. It constituted over half of their total calories. In view of such facts, would it not be well if we modified our bread in such a way as to make it more nearly approximate an adequate diet?

Holt has lately reviewed the evidence as to what is a good distribution of calories in children's diets, and concludes that there should be on the average about fifteen per cent of calories from protein, thirty-five from fat, and fifty from carbohydrates. Some Teachers College students have analyzed a number of children's diets ranging in age from 5 to 15 years and selected with care so as to be typical of the best we know about child feeding; these average 13 per cent protein, 36 per cent fat and 49 per cent carbohydrate. Wide deviations from these figures are probably not desirable.

One of the newer emphases in nutrition is the value of suitable quality as well as suitable amount of protein. It is easy to demonstrate the effect of a diet whose protein is inadequate. Opposite are some growth curves of two young rats which were fed after weaning at the age of four weeks, a diet which had no deficiency except in the quality of its protein. The sole source of this was the potato. Potato protein is very efficient for maintenance, but young animals, though they look lively and not sick, do not grow, as can be readily seen by comparing the normal control of the same age with the potato fed animals. Doubling the protein did not improve the rate of growth, indicating some fundamental deficiency in its composition. The only way to get improvement in such a case is to supply the missing amino acid or acids. The possibility of doing this by combining with the diet some other protein bearing food seems not to be fully appreciated. Often we see the statement that vegetable proteins or cereal proteins have no nutritive value. The truth is, these can be made very efficient by the addition



GROWTH OF RATS ON POTATO AS THE SOLE SOURCE OF PROTEIN

of relatively small quantities of a truly supplementary food; thus milk is a most valuable supplement to cereal proteins as has been shown by Hart and Humphrey. When we have such tested combinations we do not need to discount the vegetable protein in the way that some appear to think. Such supplementing is a great aid to an economical dietary, and is necessary if the children of the world are to be well nourished and not allowed to become physically handicapped men and women, even though poor.

The importance of sufficient calcium and phosphorus in the diet has been emphasized by some recent work. Meigs has studied milk production over a period of five years in good cows kept under approved condi-

tions on a standard diet, and has found the quantity of milk produced falling off seriously after the second year, so that it was in the fourth only about half what it had been in the second. In the fifth year changes in the diet brought marked improvement which he attributes to added calcium and phosphorus. Investigations into the cause of rickets have revealed that shortage of phosphorus may induce rickets in rats (Sherman) and that disproportions between calcium and phosphorus are more significant than simple shortage of both (McCollum). Blood and tissue calcium cannot be increased simply by feeding calcium. Sherman and Hawley have made a notable study of calcium requirement in children, in which 21 children were the subjects of 417 experiments, with determinations of calcium balance in each case. The diets consisted of bread, cereal, orange, potato, macaroni, cocoa, prunes, apples, oranges, and butter, with controlled and systematically varied amounts of milk. It was found that the best storage of calcium (about one gram per day) was secured regardless of the age of the child (range of years 3-13) when one quart of milk was made the basis of the diet. Neither increasing nor decreasing this amount gave so good results.[2] The Journal of the American Medical Association says in commenting upon this work, "The dietary rule of a quart of milk each day for every child is much more than a precept based on individual opinions or drawn from analogy from the results of feeding experiments with lower animals: it now rests on scientific evidence obtained by extensive and intensive experiments directly on the children themselves."

Another interesting connection between diet and the welfare of children is in regard to iodine intake and the development of goiter in goitrous regions. Thanks to the work of Marine and his associates in the Great Lakes Basin we now have evidence of the arrest of goiter in boys and girls by the systematic administration of iodide. It has been said that "three generations from the seacoast mean goiter" and the systematic use of some sea food has been recommended. The possibility of a lack of iodine in the diet must be recognized, and some provision made for it, either by systematic small doses in food, or probably better by equally systematic doses of some medicinal form of iodine at longer intervals.

The discovery of the vitamins has put our feeding programs for children on a sounder footing than ever before. "Vitamins are the

[2] Sherman and Hawley: Calcium Requirements of Children, *J. Home Econ.*, Sept., 1922. See also *J. Biol. Chem.*, Aug., 1922.

spark which ignites the fuel mixture" says McCarrison and it indeed seems so when we see how pigeons, deprived of the B vitamin do not digest their food, which stays in their crops and clogs up their alimentary tracts; or how dogs, deprived of the same vitamin, lose their appetites, and refuse to eat; or how marasmic babies starving, like the pigeons, in the midst of plenty, may begin to digest their food and grow, when the B vitamin is liberally supplied. Even babies thought to be well fed have been known to benefit from more liberal supplies of B, as has been demonstrated by Daniels and Byfield. This is one great reason for emphasis on fruits and vegetables in liberal amounts, and upon methods of cooking which do not remove or destroy the vitamins.

Shortage of the A vitamin not sufficient to produce xerophthalmia may mean lowered resistance to infections of all sorts—skin diseases, tuberculosis, pellagra, etc. It is interesting to note that scattered here and there over the earth we find little isolated groups of people living on a dietary of restricted character on account of their separation from the outside world. Such a group in Labrador suffers from all the deficiency diseases on a diet consisting largely of white flour, tea, tinned meats, and molasses. Another group in India (reported by McCarrison), living largely on grains, fruit, vegetables, and milk, has a markedly high resistance to disease. The difference seems to be chiefly one of diet. Here in America, thanks to our varied resources, the hit and miss system brings fair results, but even here people may be greatly improved by more systematic selection of the diet. A report just published of a study of 7738 elementary school children reveals the startling fact that half of them said "no" in answering in writing the question, "Do you drink milk?" and of these, half said they like it but could not get it. Thirty-eight and a half per cent of these children are reported as drinking coffee regularly.

Lack of the C vitamin may not cause actual scurvy, but Wells and Zilva have shown that one of the early symptoms of scurvy is defective teeth and Hess has called attention to the fact that borderline cases may show such general signs of poor nutrition as anemia or states similar to mild rickets, and so escape their true diagnosis quite easily. No one who has worked in the laboratory and seen how, on a scorbutic diet, one may predict almost to a day the death of a guinea pig deprived of this vitamin can fail to be impressed with the control which it is possible to exert through changes in the diet alone over the well-being and final destiny of all sorts of living creatures. Whether exactly the same things happen under the same circumstances to the human child is not particu-

larly significant; what we must write upon our hearts is that we have within our power to a large degree the making or marring of these little lives through our control of their diet. "Into the twilight of the world are launched each year" says Galsworthy, "myriads of tiny ships; under a sky of cloud and stars they grope out of the great waters and the great winds: little sloops of life of whose voyaging the future hangs—." It is our responsibility to give them a good nutritional launching and save them from going aground from bad charting of their diets.

To the social service dietitian, child nutrition presents itself as a problem of education. The child is not directly under her control and must be given motives and impulses to practice those behaviors which are the essence of healthy living. Moreover as Wilbur so truly says, "the teacher who is to do really effective work must think biologically and cause her pupils to think biologically, not merely put over rules. . . . . It is desirable to form health habits, but also important to give the child a sound knowledge of the principles of physiology and hygiene so that in the future it can modify its habits intelligently as the need may arise." Whether it be in the home, in the special nutrition class, or in the school, the great task is education in how to live so as to realize one's highest possibilities. The best foundation for this is, first, the knowledge of how to build a good body through daily food, and second, of how to care for the machine built and maintained at so great cost to the end that it may have the greatest usefulness for the human spirit it carries.

To the institutional dietitian, child nutrition may come in the guise of school feeding. This, too, must be educational to have lasting value. The experience of Europe and America in this field have just been interestingly reviewed in a pamphlet "Malnutrition and School Feeding" by J. C. Gebhart, published by the United States Bureau of Education, in which is clearly brought out the fact that school feeding has failed of permanent success when not accompanied by instruction in the essentials of good nutrition.

Just lately the author has been particularly interested in the problem of nutrition in children's institutions. Too often children have been fed, like the famous victims of Mr. Squeers, too much bread and treacle. Administrators have been judged by the state of the treasury rather than the state of health of the children. When those who have been in an institution longest are the least well developed, it is time to take notice of the dietary. An opportunity presented itself to study an orphanage in which the children are fed both with regard to economy

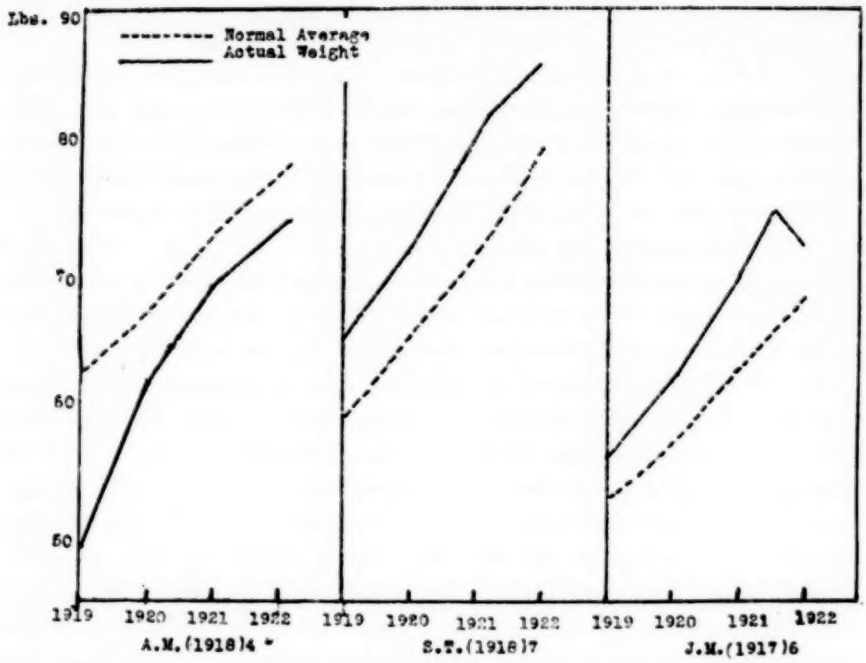
and nutrition and this study will be reported in detail before long. The children, about 130 in number, have been weighed and measured systematically since 1917, at first twice a year (February and June) and this last year every month. The institution has a fine little hospital of its own with a consulting physician and a resident nurse so that physical defects are taken care of.

Growth curves have been plotted for twenty-nine children who have been there three years or more, the "oldest inhabitant" having been there five years. These children, in spite of having very many of them been under weight for height when they entered, sometimes handicapped by earlier rickets, have steadily improved, many of them have reached estimated normal weight, and some have exceeded this. Page 140 shows curves of some of the children who entered when quite young, as it seemed that these would be most susceptible to the influence of the diet. These curves tell their own story, except for that of J. M. The falling off in the last half of this year was so unusual that special inquiry was made as to what had happened to J . . from which it was learned that he had been training for an athletic contest through the summer—and won the medal! Percentage of gain of every one of the children from the first half of this year has been calculated and nearly all are making normal gains, while some are exceeding these considerably. This seems good evidence that the diet is adequate, but this weight study will be continued further.

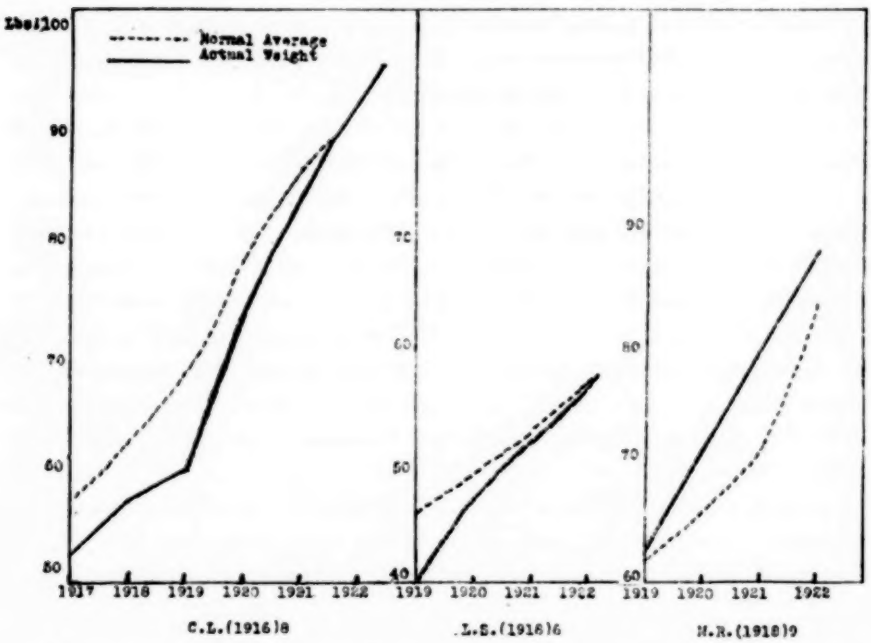
The meals are exceedingly simple: breakfast consists of cereal, cocoa, bread and nut margarine (no butter is used in the dietary), with eggs once a week in place of the cereal; dinner of a hot dish—often a stew or soup thick with vegetables and meat, sometimes meat with vegetables as side dishes, now and then macaroni or baked beans—bread and nut margarine, a dessert or a simple pudding; supper has the main dish sometimes a ready to eat cereal, sometimes a cooked one, once in a while a chowder or some other hot dish, bread and nut margarine, milk, and a simple sweet such as a plain cooky, sweet cracker, or little cake, occasionally stewed fruit or a pudding. There is a standing order for 130 quarts of milk daily.

A dietary study has been made for six months, grouping the calories according to the classification shown in the table below and using A. R. Rose's abridged method of calculation of institutional dietaries.[3]

[3] Abridged Dietary Calculations for Rations in Quantity, *Modern Hospital*, 14, 1920, no. 6. See also M. S. Rose's Laboratory Handbook, pp. 77–84.



WEIGHT GAINS OF BOYS LIVING IN AN ORPHANAGE FOR THREE YEARS OR MORE*



WEIGHT GAINS OF GIRLS LIVING IN AN ORPHANAGE FOR THREE YEARS OR MORE*

* Growth curves of children for years indicated. Date after name shows date of entrance, and figure following, the age at entrance.

A series of typical children's dietaries very carefully selected and representing children of the ages found in the orphanage has been subjected to the same analysis; and finally, some diets constructed according to the recommendations of the Committee on Economic Standards of the New York Nutrition Council for the feeding of children at minimum cost have been similarly analyzed. The returns upon these are given in the table below.

Distribution of calories in children's diets

AGE	CEREALS (GRAIN PRODUCTS)	LEGUMES (DRIED)	FRUIT AND VEGETABLES	SUGAR AND SWEETS	FAT NOT INCLUDED IN OTHER GROUPS	MILK	MEAT AND EGGS	TOTAL		
								Protein	Fat	Carbohydrates
I. Typical dietaries at moderate cost										
years	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*
5– 7	23.3		15.4	5.5	11.4	39.0	3.5	12.9	38.4	48.7
7–12	21.6		18.0	6.8	13.7	31.1	7.9	13.1	37.1	49.9
13–15	25.5		12.4	9.2	12.1	24.1	12.0	13.3	32.5	54.3
Average	23.4		13.3	5.7	11.8	36.8	7.2	13.0	36.0	49.0
II. Typical dietaries at minimum cost										
5–12	36.0	3.6	13.7	5.0	12.0	24.0	5.0			
12–16	38.0	3.2	13.0	5.0	14.0	19.0	6.0			
III. Orphanage dietary*										
5–16	31.0	6.3	11.4	12.2	4.7	26.0	8.2			

* Subject to possible revision upon further study.

It will be noted that the proportion of cereal foods (including breadstuffs) is slightly higher for the orphanage than for the model dietaries of moderate cost, but considerably less than the maximum cereal content represented by the minimum cost dietaries. The fruits and vegetables are a little low and should be raised. In the summer time these children have quantities of vegetables donated to them, and they spend ten weeks in the country, so the average for the year is probably higher than the figures for the months studied (January, April, May, June, August, October). The fat seems low, but this is fat in the dietary as added fat, and not the total which is close to the estimated desirable average (35 per cent) partly because of the milk and partly because of the high proportion of legumes about fifty per cent of which is peanut butter. The use of peanut butter raises the percentage of legumes to a point

which would be otherwise impractical. This liberal use of the peanut is interesting in view of its demonstrated efficiency in maintaining nutrition in experimental animals with very little supplementing. The most significant thing in this dietary, however, is the proportion of the total calories which comes from milk (26 per cent). Considering the success which attends the raising of young rats on a diet in which approximately one third of the calories come from milk no other food besides white bread being fed, it seems safe to conclude that a child's diet with 26 per cent of the calories from milk and, in addition, 10 to 13 per cent from fruits and vegetables will furnish adequate material for growth; and that, if the menus show meals easy to digest, with the food well distributed through the day, and a suitable variety of fruits and vegetables, while visits to kitchen and dining room show that the food is cooked so as to be sanitary and palatable, the dietary may be safely approved as meeting fully nutritive requirements. This preliminary report has been given in the hope that some of the members of the American Dietetic Association will be interested to study the dietaries of institutions in this way and help to put scientific feeding in such places upon a sound and practical basis.

To arouse our zeal and sustain us in our work for better child nutrition let us think upon this utterance of Charles Kingsley:

"Three persons out of four are utterly unaware of the general causes of their own ill health, and of the ill health of their children. They talk of their 'afflictions' and, if they be pious people, they talk of the 'will of God' and of the 'visitation of God.' I do not like to trench upon these matters, but when I read in my Book and in your Book that 'it is not the will of our Father in Heaven that one of these little ones should perish,' it has come to my mind sometimes with very great strength that this may have a physical application as well as a spiritual one, and that the Father in Heaven who does not wish the child's soul to die may possibly have created that child's body for the purpose of its not dying except in good old age."

EDITORIAL

An American School Program. The minutes of the Detroit meeting, printed in this issue of the JOURNAL, contain a reference to an invitation from Mr. Owen, President of the National Education Association, which has great significance to those interested in the development of home economics in our schools.

It is the plan of the National Education Association to organize a committee or commission to formulate an American School Program. This program is to cover the organization, administration, curriculum, and method of the American public school from the kindergarten up to the professional school. The purpose is to do in a systematic and complete way what has been done in the past for parts of the school by the Committee of Ten, the Committee of Seven, and the Committee on the Re-organization of Secondary Education. The documents published by these committees have had a determining influence in the developing of the American public school. They have had no legal authority. Their influence has depended upon the character of the reports themselves.

There is no nationalizing and unifying agency at work in the American public school. The influences that have produced the kind of unified and homogeneous school we now have are chiefly social influences. One language throughout the country, easy communication by rail, the habit of travel, teachers' organizations and meetings, text books distributed all over the country, and the like are the influences which have given us an American public school. Quite in contrast to this is the influence exercised in Europe by the national educational authorities such as the Minister of Public Instruction. The National Education Association is going to undertake to formulate for the profession its views as to what the American public school should be. Of course it will remain for the different states and communities to accept or reject any or all of the recommendations of the committee.

In organizing this committee, the President of the National Education Association has adopted the plan of dealing with those organizations of teachers already in existence. Many of these, like the American Home Economics Association, deal with a single subject. Others are based on a common, administrative function, like the Department of Superintendence. Therefore, the President of the National Education Association is asking these different associations to submit to him a list of a half dozen people from which he can appoint a member on the commission of the National Association. The purpose in getting a number is that, when the whole committee is made up, there will be something like a fair distribution among the parts of the country and different parts of the school system. Whoever is selected for appointment by the President of the National Education Association will thus be somebody approved in advance by his fellow workers in the field. The function of each representative of these organizations will be to carry into the commission the views of his professional colleagues. He can get these views in any way that his organization provides. The second function he will perform will be to carry the views of the commission back to the organization. If the right people can be appointed, and if all will come together in the right spirit, it is believed it will be possible for all the people working together for public education in America to have the kind of influence on the development of our schools that has not been exercised in this way before.

In response to this invitation, the Executive Committee has transmitted the following nominations: Jenny Snow, Anna Richardson, Mrs. Henrietta Calvin, Helen Livingstone, Edna White, and Grace Schermerhorn.

The Women's Foundation for Health. Four delegates from the American Home Economics Association attended the annual meeting of the Women's Foundation for Health held in New York City, November 21–22, 1922. This is a new affiliation for the Association, the Women's Foundation having originated in 1919 at the International Convention of Medical Women, and formally opened its doors in July, 1922. The Foundation is a coöperative body of leading national women's organizations, formed for the purpose of correlating the health interests of these organizations and increasing their intensity. Representatives from the various organizations constitute a House of Delegates, by whom a Board of Trustees is elected and given power to appoint the active staff and technical committees of the Foundation.

The aim is to further health education, with emphasis on the health of the individual woman, for whom no other agency seems to be taking special thought. One of its objectives is to establish the conviction that health is generally attainable through individual effort and responsibility and that this applies to mental as well as physical health.

One of the most important educational measures to date has been the preparation of a series of pamphlets, called the "Positive Health Series" which deal with Health Examinations (and how to secure them), the establishment of Local Health Foundations to extend health examinations and their attendant benefits to all communities, instruction as to exercise, nutrition, recreation, and mental health. The manuscript of the various pamphlets was considered and approved by the Council on Health and Public Instruction of the American Medical Association, with the recommendation that the Foundation's program be generally adopted. These pamphlets are now available at a modest cost and should prove useful to those interested in health work with women and girls.

Aside from the enthusiastic reports of the various staff officers, the most important business of the meeting was the consideration of the coming five-year program. In addition to all possible coöperation with the various organizations represented, and the use of all educational agencies, such as schools and libraries, and the public press, it is hoped that there may be put into the field mobile units to demonstrate the

workings of the local health centre to large groups such as national conventions, state fairs, etc.; also training units to aid groups organizing centres, to conduct Health Weeks, and afford all those who wish to take an active part in the betterment of women's health the benefit of expert assistance.

Recognizing the need for research in this field, it is also proposed that selected groups be taken for observation over periods of several months, and that the collection of statistics in regard to women's health be a part of the work of the research staff.

With eminent medical women directing its activities, the Foundation seems to be peculiarly well fitted to undertake to enlist the interest and coöperation of the medical profession generally in this movement for better public health. The alliance between the Foundation and the American Home Economics Association seems a happy one because at the root of better homes lies better health and the full vision of home happiness can never be realized without "health positive."

Food Poisoning and its Prevention. From an excellent article by Thom[1] of the United States Bureau of Chemistry, on the control of food poisoning, only the following excerpts are offered; however, the whole paper is waiting to be read by a public in need of accurate information on the subject.

First, general suggestions for the prevention of food poisoning

Food to be eaten raw should be fresh, clean, sound, free from stale odors, from slimy, rotting areas, from discolorations and from mold, and should be carefully washed in an abundance of bacteriologically clean water (that means drinking water).

Sound food freshly cooked does not cause food poisoning; moist or soft cooked food if held more than a few hours should be kept in a good refrigerator. If such refrigeration is impossible, the food, even though showing no sign of spoilage, should be recooked before serving.

The frequency of enteric outbreaks and of botulism clearly points to a very general failure to appreciate the dangers of bacterially contaminated and of spoiled food.

Responsibility for eliminating spoiled food from human consumption rests equally upon the packer, the dealer, and the person who prepares it for the table. Every person handling any kind of food should be familiar with the standards of quality, appearance, odor, and texture of the product whether handled in bulk or in sealed containers.

Second, detailed suggestions for the inspection of canned foods, offered in connection with the campaign against botulism

(*a*) *Selection of food for home canning:* Only clean, fresh, sound products should be used for canning. It is hard to sterilize dirty or partly spoiled products such as stale, fermenting, souring, heating, slimy, wormy, specked, or partly rotted fruits or vegetables.

Keep a record of every can, its contents, and methods of handling. Hold all cans under observation in kitchen or pantry until you are sure they are keeping (not less than 10 days).

Some cans will still spoil on account of faulty containers, accidents, under-cooking, or mistakes. Before even tasting, inspect every can, destroy the bad, recook cans of that lot, or cans treated in the same way and apparently good.

(*b*) *Inspection at opening time:* In tin, both ends should be flat or curve slightly inward; neither end should bulge, snap back when pressed, or feel loose; make no exceptions. All seams should be tight and clean, with no trace of leaks.

In glass, the cover should be firm, flat or concave, with seam, rubber ring, and label clean and free from all signs of leak. The contents should appear free from mold, disintegration, cloudiness, or other abnormality and show no discoloration.

When opened, suction inward is highly desirable; no outrush of gas or spurt of liquid should occur.

The odor, observed immediately, should be characteristic of the product. No trace of foreign or objectionable odor should be present.

No disintegration, no mold or other abnormal appearance should be observed. Liquor enough to cover the food is desirable in most products.

The inside of a tin can should be clean and bright, or well lacquered, not extensively blackened or markedly corroded.

If you know it is spoiled, destroy it. If after examining it, you cannot tell, add half the volume of boiling water and boil thoroughly.

SYBIL WOODRUFF.

[1] Thom, Charles: Food poisoning and its prevention, *Amer. Food J.*, November, 1922, p. 15.

OPEN FORUM

Home Economics Tests. The movement to measure results scientifically in the field of home economics is at last under-way and, in order to facilitate progress, the JOURNAL is offering to serve as a clearing-house for information as to what is being done. If those who have worked out tests and scales will send copies to Clara M. Brown, Division of Home Economics, University Farm, St. Paul, Minn., together with any additional data such as the method employed to construct them and the use that is being made of them, the JOURNAL subscribers will be kept in touch with the progress of the movement. This information will be published promptly.

Art in Industrial Education. In an article entitled "The International Mind" (Atlantic Monthly, March 1920), the writer divides our social organization into guilds, one of which is the "Guild of Fine Arts, or the Community of Excellence." "The principle here involved" says the writer, "is the value of good workmanship, both for the product it yields and the education of those who produce it."

Art is a process, not an object. In order to do the sort of work which is "creative and delightful" one must play with his ideas, must visualize the result, must think out schemes from principles taking into consideration the medium, the setting, and the use. If he proceed in this way a certain amount of originality will appear in every man's work. In the past we have often merely copied the ideas of others, sometimes adapting, but frequently bringing over bodily entire bits to our use that others have developed with pains and patience. As a result the soul of the thing, its entire reason for being is in a measure lost. For example, the Indian and Peruvian motifs recently used with no thought of the meaning or symbolism, were to the Indian, art, but to us, merely copies.

In Duluth, Minnesota, the art supervisor is attempting an unusual bit of work in developing in the children a keen interest in the natural features of Duluth, its environment, and all its activities. They search out the legends and myths; they follow processes from the raw materials through successive steps to manufactured articles. All of this appears over and over again as motifs for sketch, illustration or design from the kindergarten through all the schools, in wood and clay, in embroidery or weaving, and in many color schemes, each time fitted to its medium and use. The hope is that out of this some form of symbolism may be unconsciously developed, something characteristic of Duluth, something distinctly self-expressive.

Architecture is making long strides in the direction of creative work, looking always to convenience of arrangement, consistent proportion, and proper setting. Especially is this so in dwellings, and an American house is the result. This means plumbing, heating, and properly routed kitchen as surely as line and color. Mr. William Gray Purcell in a talk in Chicago a year or two ago said; "It seems as though the spirit of America was saying to the designer, and architect, and those who train their brains and hands to produce beautiful things, 'Go ahead, design homes for the wealthy, but don't touch my Pullman Car, don't touch my factory, my engines, and automobiles or telephone receivers, for these are the things by which I am expressing America today.'" Why are all the objects mentioned things used by men? Why do not things used by women and children come in the same category? Many of the things we wear today are the product of men's designing: the low bodice, the high heels, the short skirts; while many women are still following the trail of art for the sake of "culture," "putting on the touch of handwork" and "taking up basketry," feeling that a commercial value hinders the growth of the spirit.

Women designers should be at work on American clothes for American women, on efficient dress for business women, on efficient homes for business women. And this is coming about. A young woman architect in Boston, is designing homes for American business women; and the influence of our excellent work in clothing is beginning to be felt.

But we are not all artists and creators. How shall the great army of American workers produce worthy results? Many excellent artisans have no particular interest in line, tone, or hue. First of all they must take an interest in their work and that responsibility devolves upon us all—parents, teachers, and employers. Then we must be on the watch for persons to promote. Art, taste, and sensitiveness to color and line must be a requirement for fore-persons and heads of departments. At present we frequently do not even find them out.

Art classes everywhere should be concerning themselves with ready-to-wear garments, with patterns in china and furniture, and with all things we buy, rather than so extensively with sketches and washes. We should teach the children appreciation and choice. It is an advantage to hold classes in the stores where objects are at hand. Use these things; work forward and backward from the concrete; impress the principles as rapidly and surely as possible. It is a serious undertaking to keep it from being superficial.

If any work is to become an art, there must be a certain ease and freedom in the rendering, a sense of familiarity with materials and tools and sincerity of purpose, not a following of other men's ideas. We shall greatly accelerate our progress when we get the spirit of the writer of the "International Mind" and follow this slogan:

"Let every man enjoy his day's work and a good product comes out at the end of it."

ELIZABETH W. BURBANK,
Director of the David Hale Fanning Trade School for Girls, Worcester, Mass.

A Method of Teaching Design in Relation to Dress. It is taken for granted, I believe, that a careful study of the principles of design is a necessary part of a well planned clothing course. It is also quite generally agreed that the ideas expressed in dress design are more effective if they are graphically described. This is true probably because the final judgment in any such problem is the appeal it makes to the eye; also because the medium of expression in clothing classes requires a certain technique in manipulation which cannot be entirely imagined.

There are several well established methods of study already in use, and none of these is to be minimized. In almost every case, however, some skill in drawing is assumed and unfortunately a great many students with excellent ideas can not express them adequately in this way. The dressing of bristol board dolls is a method which can be used to furnish the student, who does not draw well or mix colors accurately, with an opportunity to express her ideas regarding women's and childrens' clothing.

The first thing to decide is what special principle is to be illustrated. This may be good proportion, rhythm in line, interest and subordination in decorative areas, color harmonies or combination of materials. The problem may give special attention to just one or to several of these principles. As a basis to work from, the student makes an original drawing or copies a costume from a fashion magazine.

The bristol board dolls should be from twelve to seventeen inches long. The instructor may obtain them by drawing a lay figure on drawing paper, or by tracing a small one from a magazine, then enlarging it with a pantagraph. If the student wishes she may change the drawing to approximate her own measurements.

Except for the study of color, tissue paper and black pencil or ink can be used satisfactorily. For color, however, pieces of cloth and various trimming materials are more effective. Whether the costume is of paper or cloth it is first placed on the bristol board figure and the cutting lines determined; then the material is cut, folded over the edge of the figure and pasted to the back. If one wishes to show both the front and back of a costume, the spacing, fulness, etc. are determined on two figures, which are dressed and glued together. When the costumes have been worked out in detail on the bristol board figures they are put up on the bulletin board for class criticism.

The figures just described are especially adapted to the study of proportion, decorative lines, and color. They are valuable because color proportion in dress, as well as interesting and effective color combinations, can be demonstrated in a material with which the students are familiar. The members of the class are interested in this play method and it has provoked helpful class criticism. This is not a method, however, that could or should be used to the exclusion of others. Nor should a course be built around this particular manner of presentation; it requires too much time for each problem. It is offered simply as one more effective way of approach to a certain group of students in the study of design in relation to dress.

EDA JACOBSON,
University of Illinois.

A Visit to the College Sheep. An agricultural college offers innumerable opportunities for coöperation between departments. Our class in textiles makes an annual visit to the college sheep barn and the sheep-shearing demonstration given by the Department of Animal Husbandry. During the winter session the sheep are in the college barns. There our students become acquainted with the different varieties, supplementing their knowledge with outside study. We also have a few reels showing motion pictures of the sheep on the range, their care, shearing, and marketing. Since the college owns nine varieties of sheep, we have an excellent opportunity to study the distinctive characteristics of each breed.

The shearing demonstration is always an event of the year. The shearing of one animal takes an incredibly short time. The sheep to be shorn is grasped in just the right way, placed upon its haunches and held in an upright position, where it remains peaceably enough after one or two little wriggles. The operation takes two men; one to generate the power, and the other to sheer. The fleece is cut straight down the front. shorn on one side, then the shears slip diagonally across to the other side, down that side, then the back and the finishes. During the shearing, a member of the Department of Animal Husbandry explains the process and discusses the varieties of sheep. Then the fleece or fleeces, for there is generally more than one variety shown, are rolled, compressed, and tied. The fleece weighs anywhere from four to ten pounds depending on the variety.

Some of the wool which we had shorn two years ago was held during the inactivity of the market. This year that wool was taken to a Philadelphia mill and woven into large-checked soft blankets and thick plaid robes which we are glad to own up here among the mountains. Seventeen pounds of the raw wool made a seven-pound robe or pair of blankets.

During the summer the sheep are kept on one of the college farms a few miles out in the country. The summer session students motor out to the farm, and visit the sheep in their summer home. On the last trip, the sheep were being treated to a coal tar dip for parasites. In the spring, a mock auction is staged in the stock-judging pavilion where the students exhibit the different animals, beautifully brushed and shining.

GERTRUDE S. CRUDEN,
Pennsylvania State College.

BOOKS AND LITERATURE

Report on House Building. By the Building Code Committee of the United States Department of Commerce.

This report deals with the construction of one- and two-family houses of masonry, concrete, and frame types, the latter including veneer and stucco. The value of such construction in the United States amounted to well over a billion dollars in 1922. It is expected that general adoption of the code, with consequent modification of present unjust and wasteful requirements, will result in substantial conservation of materials, and the saving of many millions of dollars. In addition to the requirements in the code itself, the appendix contains valuable information on the quality of materials and workmanship which should be used for good results.

Secretary Hoover characterized the report of the committee as "having a value far beyond any similar work undertaken to date."

The report may be obtained from Superintendent of Documents, Washington, D. C., for fifteen cents.

Annual Report of the Children's Bureau. "No one whose work is in the field of child welfare can look back on a period of unemployment without feeling that in the last analysis its burden falls very heavily on the shoulders of the children," says Grace Abbott, Chief of the Children's Bureau, in her annual report to the Secretary of Labor made public recently. The bureau studied the effects on children's welfare of the unemployment period last winter in a middle western and a New England city, and Miss Abbott states her conclusion that the lowered standard of care for children during such a period must result in permanent losses to the community. In these cities many families having two or more children were spending less than $50 a month, including store credits. In one of the cities a budget estimate of the amounts of food, clothing, fuel, and sundries required for families of different size and age had been prepared by a large manufacturing firm, and for half the families in which comparisons were made the average monthly receipts from all sources during the unemployment period, including relief, were less than 50 per cent of this estimate.

Although work was very difficult to secure, nearly a third of the mothers included in the study had taken gainful employment; the mothers of 102 children under 6 years of age and of 154 between the ages of 6 and 13 were working outside their homes. A number of children under 16 had left school for employment after their own and many other fathers were out of work.

The report includes a study of the advisability of pensioning mothers, and a survey of conditions affecting children in Porto Rico.

High Schools and Sex Education. U. S. Public Health Service and U. S. Bureau of Education. Washington: Government Printing Office, 1922, pp. 98. $.50.

For several years a coöperative study of the problem of sex education has been conducted by the Public Health Service and the Bureau of Education. The result is this manual which is intended to bring together the observations and experiences of one group of teachers for the benefit of other groups. "It has been prepared on the basis of descriptions of work actually being done by high-school teachers in various parts of the country, replies to questions submitted to the Bureau of Education and to the Public Health Service by correspondents, and replies to questions most frequently raised at the forty or more conferences on sex education that have been held during

the past three years. There is included an attempt to show the bearing of the whole problem of sex enlightenment and adjustment to the other tasks of the school, together with a variety of practical suggestions derived from many sources."

Laboratory Manual of Fruit and Vegetable Products. C. V. CRUESS AND A. W. CHRISTIE. New York: McGraw-Hill Book Company, 1922, pp. 109. $1.50.

This manual is intended for use in agricultural colleges, but is also of value to home economics classes, and to others interested in the examination of commercial food products, or the actual preparation of preserved or dried fruits and vegetables. It is the outgrowth of a course given at the University of California during the past eleven years.

Food Products From Afar. BY E. H. S. BAILEY AND H. S. BAILEY. New York: The Century Company, 1922, pp. 285. $3.00.

This book by the authors of "Source, Chemistry and Use of Food Products" is a "popular account of fruits and other foodstuffs from foreign lands." It affords an epicurean tour of the world as its chapter headings indicate: Who Feeds Us; The Nut-gatherers of Semi-Tropical Lands; Why We Prize the Flavor of Continental Cheese; Camping with the Arabs and Partaking of Their Fare; The Mediterranean Shores and What They Yield; Filling the Coffee Cup from Brazil; Stimulants and Sedatives in Southern Lands; From a Central American Banana Plantation; What Other People Eat; Markets and Market Peoples.

The first chapter is illuminating to the casual reader. The discussion of the transportation of the banana is especially well written. Only such statistics, mainly quantity of import and those for 1921, as would hold the popular mind, are given. The last chapter proves the authors' sympathetic understanding from wide acquaintance with many picturesque conditions. The entertaining discussion of the origin and almost romantic history of unusual foods, would be further enhanced by more illustrations. Authenticity is questioned by the lack of a bibliography. A more complete index would be desirable.

The book is related and useful as a reference for high school students; it is also comprehensible by the layman.

VIOLA M. BELL,
Iowa State College.

Experiences of Mrs. Rip Van Winkle. By LOUISE T. MONTGOMERY, Albany, N. Y.

The experiences of Mrs. Rip Van Winkle are related in entertaining fashion in this short two-scene play arranged for high school girls. The first scene is quaintly set in the old kitchen of Mrs. Van Winkle. Here the mother and daughters spin, sing, and talk of their work and play. Then Mrs. Van Winkle goes to sleep and awakes one hundred years later in the home of her great grand daughter, in a strange world of business women, colleges, fireless cookers, vacuum cleaners, and home economics courses.

The play is well adapted to the use of a home economics class desiring to entertain the Mothers Club.

A copy is on file in the JOURNAL Office and will be loaned on receipt of ten cents.

A History of Dyes. By PAULINE GRACIA BEERY and MARY LOUISA WILLARD.

The first instalment of this concise history of dyes is printed in this issue of the JOURNAL. Other instalments will follow in succeeding issues. The paper is a symposium on dyes and includes a valuable bibliography. After a discussion of the origin of the practice of dyeing textile fabrics, the authors trace the industry through the appropriative, adaptive, and creative periods, classifying and describing the dyes of each period. The reprint of the entire article may be secured through the Journal Office at the cost of 15 cents. All teachers of textiles will find this a brief but complete and interesting presentation of the subject of dyes which may be used to advantage in many classes.

BIBLIOGRAPHY OF HOME ECONOMICS

PERIODICAL LITERATURE

Food and Nutrition

Ashby, H. C. The Pelves of Rickety Children as Precursors of Rickety Flat Pelves of Women. *Br. Med. J.*, 1922, no. 3228, 905–906.

Ayers, S. H. and Courtland, S. M. Relation of Vitamines to the Growth of a Streptococcus. *J. Bact.*, 1922, 7: 449–463.

Bayliss, W. The Unity of the Human Body. *Lancet*, 1922, 203, II, 1046–1047.

Brown, A., Courtney, A. M., and MacLachlan, I. F. High Protein Diets in Intestinal Indigestion in Children. *Br. J. Children's Diseases*, 1922, 19: 113–127.

Emerson, W. P. Nutrition and Growth in Relation to Tuberculosis. *Bos. Med. and Surg. J.*, 1922, 187: 495–498.

Findlay, L. Etiology of Rickets. *Br. Med. J.*, 1922, no. 3227, 846–849.

Goldberger, J. An Amino-acid Deficiency as the Primary Etiologic Factor in Pellagra. *J. Am. Med. Assoc.*, 1922, 79: 2132–2135.

Hess, A. F. Influence of Light in Prevention and Cure of Rickets. *Lancet*, 1922, 203, I, 367–369.

Hess, A. F. Nutritional Disorders in the Light of Recent Investigations. *Bos. Med. and Surg. J.*, 1922, 187: 101–108.

Hess, A. F. and Lundagen, M. A. A Seasonal Tide of Blood Phosphate in Infants. *J. Am. Med. Assoc.*, 1922, 79: 2210–2212.

Howland, J. and Kramer, B. Factors Concerned in Calcification of Bone. *Trans. Am. Ped. Soc.*, 1922, 34:204–208.

Hutchison, H. S. Etiology of Rickets Early and Late. *Quar. J. of Med.*, 1922, 15:167.

MacCleod, J. J. R. Insulin and Diabetes. *Br. Med. J.*, 1922, no. 3227, 833–835.

McCauley, H. M. C. Cheese Poisoning with Special Reference to the Dover Outbreak. *Lancet*, 1922, 203, II, 1012–1015.

Means, J. H. The Use and Abuse of Thyroid. *Bos. Med. and Surg. J.*, 1922, 187: 165–168.

Mellanby, E. Etiology of Rickets. *Br. Med. J.*, 1922, no. 3227, 849–858.

Physiological Effect of Light. *Br. Med. J.*, 1922, No. 3230, 1028.

Rollier, A. The Share of the Sun in Prevention of Tuberculosis. *Br. Med. J.*, 1922, no. 3225, 741–745.

Smith, A. M. Vitamines in Ice-cream. *J. Am. Med. Assoc.*, 1922, 79: 2221–2222.

Stoll, H. F. The Value of Basal Metabolism Determinations in Diagnosis and Treatment of Hyperthyroidism. *Bos. Med. and Surg. J.*, 1922, 187: 127–133.

Weinzirl, J. The Cause of Explosion in Chocolate Candies. *J. Bact.*, 1922, 7: 599–604.

Wiseman, W. R. An Out-break of Food Poisoning by Milk Caused by B. Aertryche. *Br. Med. J.*, 1922, no. 3225, 728–729.

Yudkin, A. M. Ocular Mainfestations of the Rat Which Result from Deficiency of Vitamin A in the Diet. *J. Am. Med. Assoc.*, 1922, 79: 2206–2208.

Textiles and Clothing

Cole, A. H. Textile Schedules in the Tariff of 1922, *Quar. J. Economics*, 1922, 37: 29–51.

Cost of Women's Clothing—and Men's. *World's Work*, 1922, 44: 358–359.

Quantity and Cost of Clothing Purchased by the Average Working Man's Family in One Year. *Mon. Labor Rev.*, 1922, 15: 529–545.

Economics and Sociology

Fuller, R. Q. Child Labor Must Be Stopped. *Good Housekeeping*, 1922, 75, no. 6, 55–56, 160–163.

Fuller, R. Q. The Truth about Child Labor. *Good Housekeeping*, 1922, 75, no. 3, 50–51.

Gadsby, M. Development of Collective Bargaining in Men's Clothing Industry in the United States. *Mon. Labor Rev.*, 1922, 14: 1093–1108.

Howes, E. P. Continuity for Women. *Atlantic Mo.*, 1922, 130: 731–739.

Hunter, R. 'Labor Once Lost.' *Atlantic Mo.*, 1923, 131, 73–80.

Joslyn, C. S. The British Building Guilds. A Critical Survey of Two Years' Work. *Quar. J. Econ.*, 1922, 37: 75–133.

Lloyd, A. F. Ages of Leisure. *Am. J. Sociol.*, 1922, 28: 160–178.

McKail, D. Discussion of Industrial Fatigue and Vocational Selection on a Basis of Physical Inquiry. *Br. Med. J.*, 1922, no. 3217, 351–355.

Menzies, M. J. Maternity and Child Welfare in Scotland. *Br. Med. J.*, 1922, no. 3217, 348–351.

Meredith, F. Sociology Applied in the Field of Health. *Am. J. Sociol.*, 1922, 28: 319–325.

Nourse, E. G. Economic Philosophy of Coöperation. *Am. Econ. Rev.*, 1922, 12: 577–597.

Taylor, H. E. The Retail Dry Goods Merchants' Relation to National Advertising. *Dry Goods Econ.*, 1922, Oct. 28.

Miscellaneous

Ballantyne, J. W. Alcohol as a Beverage in Its Relation to Infantile Mortality. *Br. Med. J.*, 1922, no. 3215, 252–255.

Bradford, E. H. School Children and Spinal Curves. *Bos. Med. and Surg. J.*, 1922, 187: 781–785.

Bradford, E. H. Spinal Flexibility. *Bos. Med. and Surg. J.*, 1922, 187: 785–788.

Chillingworth, F. P. The Influence of Alkaline and Acid Tooth-Paste upon Cavity Formation. *Br. Dent. J.*, 1922, 43: 1089–1096.

Collis, E. L. Alcohol and Industrial Efficiency. *Br. Med. J.*, 1922, no. 3215, 244–248.

Hindhede, M. Alcohol Restriction and Mortality. *Br. Med. J.*, 1922, no. 3215, 248–252.

Hoover, Elva D. Equipping the Home Laundry. *House Beautiful*, 1922, 52: 454–6.

Hoover, Elva D. Look to Your Laundry, *House Beautiful*, 1922, 52: 342–344.

Kinloch, J. P. The Constituents of Fresh and Vitiated Air and Their Significance in Problems of Ventilation. *Br. Med. J.*, 1922, No. 3217, 356–357.

Livingston, A. A study of Certain Properties of Tooth-Pastes. *Br. Dent. J.*, 1922, 43: 616–621.

New Houses for Old. *Survey*, 1922, 49: 368–370.

Stockard, C. R. Alcohol as a Selective Agent in the Improvement of Racial Stock. *Br. Med. J.*, 1922, no. 3215, 255–260.

The Case Against the Younger Generation. *Lit. Dig.*, 1922, 73: 38–42.

Veeder, B. S. Child Hygiene and the Private Physician. *J. Am. Med. Assoc.*, 1922, 79: 2228–2229.

Wise, M. C. and Stockton, H. M. A Few Simple Art Principles of Value to Every Industrial Arts Teacher. *Ind. Arts. Mag.*, 1923, 12: 12–13.

NEWS FROM THE FIELD

THE ANNUAL MEETING OF THE AMERICAN HOME ECONOMICS ASSOCIATION

Chicago, July 30 to August 3

Hotel Accommodations

As the sessions of the Association are to be held at the University of Chicago, the local committee has considered it advisable to arrange for hotel accommodations in that vicinity. The hotel chosen for headquarters is the Windermere. This hotel has had a reputation for comfort since the World's Fair and is completing an attractive building, Windermere East, which will be ready for use next summer. It is ideally situated for a summer meeting, as it is but a block from Lake Michigan and faces Jackson Park with its tennis courts, golf links, bathing beaches, lagoons, and greens. The rates are from $3.50 to $5.00 per day for single rooms and from $4.00 to $7.00 per day for double rooms. The hotel is generous in its offer of rooms for group meetings and conferences. Much of the benefit of the annual meeting comes from the social intercourse with persons from all parts of the country, and the Windermere headquarters will furnish ample opportunity for these meetings. The Homemakers' Section is requesting that this group may be housed together in one section of the hotel.

A smaller hotel somewhat nearer the university is the Del Prado, which is located on the Midway and is also near Jackson Park. The Del Prado can care for a small number of transient guests at rates running from $2.50 to $4.00 per day.

For those who are planning to make a longer stay in the city it is desirable to apply to the Housing Bureau of the University of Chicago. Since our meetings are to be held during the second term of the summer session, when the university is less crowded, it will be possible to use some of the rooms which are usually rented to university students. These rooms range in price from $6.00 to $8.00 per week.

Members who prefer a downtown hotel are referred to the Hotel La Salle, the Auditorium, and the Congress. In all cases reservations should be made directly with the management of the hotel selected.

Application has been made to the various passenger associations for railroad rates under the certificate plan. Further announcements concerning these will be made in the Journal.

Central Region Elects Councilor. A sufficient number of states in the Central Region have affiliated to give them the right to elect a regional councilor. The constitution authorizes the election by state presidents, but does not provide for the initiation of the action. Miss Sweeny therefore called a meeting at Detroit consisting of the state presidents and the state councilors from the Central Region who were present at the meeting in order that they might make nominations to be submitted to the state presidents. The result of this ballot is the election of Jenny Snow as Councilor for the Central Region.

The keynote at the recent meeting of the **American Association for the Advancement of Science** in Boston was the appeal to scientific men to interpret the findings of science to the public, so that there may be an informed public opinion to offset the forces of reaction such as have recently found expression in anti-vivisection and anti-evolutionary propaganda. Dr. Livingstone Farrand in the Sigma Xi address carried the appeal to a higher plane in a challenge to scientific men to accept their responsibilities for leadership in community affairs, especially in matters of health.

The Section on Social and Economic Sciences, to which members of the American Home Economics Association were especially invited, laid the emphasis on the various aspects of conservation. The program included a very scholarly discussion by Thomas S. B. Baker of the Carnegie Institute of Technology on the conservation of human energy. Mr. W. F. Chamberlain of the Travellers' Insurance Company read a thoughtful paper on the conservation of labor power through insurance, and Dr. Eugene R. Kelley, State Health Commissioner of Massachusetts, presented the subject of the conservation of health, stating the problems of public health, the methods pursued by various organizations to improve public health, and something of the things accomplished. It was of interest that since the first organized effort was made to conserve public health the period of life of the average individual has been very decidedly lengthened.

Certain economic reactions of the war was the subject of the address by Professor James Mavor, the retiring vice-president of the section. At the second session, President Kenyon L. Butterfield of the Massachusetts Agricultural College spoke on the conservation of the qualities of the rural population. He presented the necessity for conservation of rural intelligence, rural health, the economic efficiency of the rural people, and the conservation of their social welfare. The means suggested for conserving these aspects of rural life he stated as education and organization. The economic problems of the home were ably presented by Dr. Langworthy.

The Maternity and Infancy Act authorizes aid to the States when matched by State expenditures "for the promotion of the welfare and hygiene of maternity and infancy." It intends, the report says, that the plan of work shall originate in the state and be carried out by the state, and the plans which have been submitted and approved by the board differ widely, according to local conditions.

Altogether 42 States have accepted the terms of the act, 12 acceptances being by legislatures and the remaining 30 by governors, pending the next regular session of the legislature. Porto Rico and Hawaii, not included in the provisions of the act, have expressed their desire for inclusion. To each State accepting the terms $5000 a year is granted outright, and an additional $5000, plus an amount determined on the basis of population, is granted if matched by the State's own appropriation. The total Federal appropriation authorized is $1,240,000 annually for each year of a five-year period, of which not to exceed $50,000 may be expended by the Children's Bureau for administrative purposes. The Federal Board of Maternity and Infant Hygiene, composed of the Chief of the Children's Bureau, the Surgeon General of the United States Public Health Service, and the United States Commissioner of Education, may approve or disapprove State plans, but the act provides that the plans must be approved if "reasonably appropriate and adequate to carry out its purposes."

The Home Economics Section of the Association of Land Grant Colleges assembled its discussions at the fall meetings under the four general headings: Administrative Problems, Improvement of College Teaching, Extension, Research.

The topics and speakers were as follows: Standards for Salaries and Promotions, Dean Helen B. Thompson, Kansas State College; What Constitutes a Teaching Load, Mary E. Sweeny, Executive Secretary, A. H. E. A.; Relationships Between Administrative Officers and Teachers, Flora Rose, Cornell University; A College Health Program, Dean White, Cornell University, and Jean Krueger, Madison, Wisconsin; Discussion of Recommendation Regarding Instruction in Home Economics adopted at New Orleans meeting, led by Anna E. Richardson, Federal Board for Vocational Education; Standards for a Background of Vocational Experience for College Teachers and How Acquired, Faith Lanman, University of Ohio; How May we Improve the Teaching Methods of the College Staff, Dean W. W. Charters, Carnegie Institute, Pittsburgh; How Shall we Measure

the Success of College Teaching, Margaret Fedde, University of Nebraska; Report of Committee on the Qualifications for Teachers of Graduate Courses in Home Economics, Emma Wardell, University of Illinois; The Plan for the Bureau of Home Economics, Honorable H. C. Wallace, Secretary of Agriculture; Report of Committee on Standards of Research, Helen B. Thompson, Minna C. Denton, Martha VanRenssalaer; Provisions Made by Departments of Home Economics to Promote Research, Mary E. Matthews, Purdue University; Organization of the Facilities for Research from the Point of its Administration, Ruth Wardall, University of Illinois, and Agnes Fay Morgan, University of California; The Publication of Research Findings, Helen Atwater, U. S. Dept. of Agriculture.

A Children's Library. What are the best 100 children's books for a home library? At the request of the Boy Scouts of America the Children's Section of the American Library Association will prepare for publication in 1923 a list of 100 books as an attempt to answer that question. A preliminary list of 85 titles has been arranged. You are asked to send your suggestions for the other 15 to Carl H. Milam, Secretary, American Library Association, 78 E. Washington St., Chicago.

ARIZONA

Farm and Home Week. Isabel Bevier was one of the speakers for the Farm and Home Week, January 15–19, 1923, at the University of Arizona.

CALIFORNIA

The Northern Section of the California Home Economics Association. Louie Willits, President, called a meeting December 15, 1922. A luncheon was given in honor of Miss Sweeny, after which she addressed the Association. This new section has a membership of forty.

The Central Section of the California Home Economics Association met December 16, 1922. The revised constitution was adopted. It was decided to hold a meeting the first Saturday of every month, excepting the months of June, July, August, and September.

The following officers were elected: President, Marie Bolton; Vice-president, Diltha McIntyre; Secretary-treasurer, Dorothy Montgomery; Councilor, Lillie Dahlgren.

This coming year the state officers will be from the central section. Miss Dahlgren will be State President and Miss Bolton, State Secretary-Treasurer.

Mary Sweeny, National Executive Secretary, attended the meeting and gave an excellent address.

The Southern Section of the California Home Economics Association. Mary E. Sweeny, National Executive Secretary was one of the chief speakers at the joint sessions of the California Teachers' Association, Southern Section, and the California Home Economics Association, Southern Section, during the week preceding Christmas.

At the close of these meetings Miss Sweeny conferred with the Committee on Recommendations to Architects and Builders of Home Economics Departments, and met with the Southern members of the State Council and Miss Murchie for discussion of national, state, and local organization. The Rotarians of Riverside claimed her attention on Wednesday, December 20.

At this meeting of the Southern Section the following officers were chosen for the ensuing year: President, Mrs. Ida Sunderlin; Vice-presidents, Jean McCulloch and Florence Martin; Recording Secretary, Anna Hussey; Corresponding Secretary, Katharine McGorray; Treasurer, Jessie Mutz; Councilor, Etta P. Flagg.

Reports were read by all committee chairmen who had been active during the year and the meeting adjourned to a banquet in the evening attended by 198 home economics teachers. Miss Sweeny inspired them anew to further, in every way possible, the cause of home economics, both state and national.

HAWAII

The University of Hawaii. Carey D. Miller, Assistant Professor of Household Science, writes the JOURNAL about the University and her work:

"The University of Hawaii has two large concrete and stucco buildings, smaller buildings for botany, engineering shops, boys' and girls' dormitories, swimming pool, and the university farm buildings. Another large concrete and stucco building is to be built very soon. The University is charmingly situated in Manoa Valley. A number of valleys run up from the harbor into the mountains, spreading out from the center of the city like fingers of a hand; Manoa is one of the most beautiful of these. Each morning when I reach the brow of the hill, I see the flag flying from the main building so that it stands out against the distant background of Diamond Head, the famous old volcano crater which one sees from almost any point in Honolulu. When I return home, I have a view of the steep green mountain sides that look down upon the city. The homes and gardens of this section of the city are fine, even when not pretentious, and each displays character and individuality.

"As universities go, ours is yet small. The enrollment this year is 476. Of these 49 per cent are Caucasian, 20 per cent Japanese, 16 per cent Chinese, 11 per cent Hawaiian and part Hawaiian, and 4 per cent Portuguese, Filipino, Polynesian, etc. About one-third of the students are girls

"As there was no work in household science offered last year it is almost like beginning a new department. Two courses are being given: a simple food preparation and nutrition course for girls not majoring in the department, and a food economics course for majors. There were no students prepared to do nutrition work this year. Interest in the work is growing and the prospects for future developments are encouraging. A good deal of my time is devoted to the rat colony. The six rats which I brought from the University of California have now increased to seventy. I have one problem started that I hope to finish by June as well as some minor experiments. The field for vitamin investigation of local foods is large and almost untouched here. There are so many interesting problems that it is difficult to decide what to tackle first. I am managing a little extension work too in the way of written articles, and during November I made a number of talks to teachers and schools on the island of Hawaii.

"A year from now I hope to be able to give a more extensive account of my work."

ILLINOIS

Two Fellowships are offered at the University of Chicago for graduate work in Home Economics for the year 1923–24. Each one carries the sum of $300 and tuition. Applications, with statement of training and experience, and recommendations especially in regard to ability to do advanced work, including research, should be in the hands of the chairman of the Home Economics Department before April 15, 1923.

The holders of the fellowships for 1922–23 are Jennie Tilt, M.S., Purdue University, who is working for her doctorate in nutrition; and Ruth Lehman, A.B., University of Illinois, who is working for her master's degree with emphasis on home economics education.

IOWA

Iowa State College. The Division of Home Economics is happy to announce that the new Dean, Anna E. Richardson, began her duties early in the winter quarter.

Edy Lord Murphy, Institutional Administration, has been asked to work with the stewards of fraternity and sorority houses, both in the planning of meals and the buying of equipment. Demonstrations in table service and in meat cutting are planned for Stewards' Club in the near future.

Madeline Aydat from Chanonat, France, who studied in the National School of Agriculture at Grignon, is studying Methods of Extension at Iowa State College in order to return to France and help to establish work for women and girls.

Iowa Girls Win Big Prize. Two Iowa girls, Katharyn Bolibaugh and Beulah Rodgers, of Mahaska county, will represent the demonstration clubs of the United States in France next June. They will show the French in the devasted areas the method of American Home Canning and the value of canned products in the diet.

The Iowa girls, who won the prize of all expenses on their three months' trip, furnished by the American Committee for Devasted France, successfully defended their title of champions, beginning at the Oskaloosa District Fair, the Iowa State Fair and the Interstate Fair at Sioux City, and by winning at the International Live-stock Show at Chicago. They represent about 55,000 club workers of the United States.

NEW ENGLAND

Simmons College. The graduate students have organized as the Graduate Division, with Professor Gay as Dean, and are holding monthly meetings. They also have a house of their own in Brookline, which they hope to make the home of all the graduate students next year.

The Simmons College Tea House, which was run at the Eastern States Exposition cleared one thousand dollars for the endowment fund this past year. Not only did the project help the fund, but it secured new students for the college, and convinced the manager of a Springfield hotel that he had to have a Simmons graduate to manage his new cafeteria.

The Fashion Show, directed by Simmons students, and held in Boston at the Copley Plaza, added one thousand three hundred and fifty dollars to the college endowment fund.

New England Home Economics Association. The Social Workers' Section had charge of the meeting held at the Boston Dispensary, January 12. After an address on Food as a Factor in Social Work by Dr. Bailey B. Burritt, General Director, A.I.C.P., New York, supper was served at Denison House, by the Syrian Ladies' Aid Society, and the receipts were used to aid the Syrians in Boston.

The Institution Managers' Section arranged the following program January 13, Boston Public Library Hall: Purchasing Food for Institutions, Elsie P. Leonard, Buyer for Smith College; Economic Handling of Food on a Large Scale, Frederic S. Snyder, President, Boston Chamber of Commerce; Discussion led by Mrs. Anna F. Watterbury, Purchasing Agent of the Women's Educational and Industrial Union, Boston.

NEW YORK

A Personal Improvement Contest. Susan Cagwin, a home economics teacher, conducted a unique contest, in a school in an Italian section of New York City, between two classes of average girls from the fifth and sixth grades. During September and October, instead of cooking lessons, she held a Personal Improvement Contest. At the first lesson the proper care of the fingernails was discussed and demonstrated and an orange stick was given to each girl. After this lesson each girl's nails were examined every week, and, if their condition warranted it, she was given a star. The second week the proper kinds of shoes were discussed and the girls who had them were especially commended. The care of brown, black, and white shoes, was demonstrated and thereafter shoes as well as nails were examined and marked. The third week the shampooing of the hair was demonstrated, and the appearance of the hair as to cleanliness and order was then added to the list. Cleanliness and wholeness of dresses and of underclothing as it appeared around the neck, the cleanliness of the face, neck, ears, and hand—all came in for their share of attention as the weeks passed. Progress was shown on two charts containing the names of the girls of the two classes. These charts hung in a conspicuous place in the kitchen. Each week after each girl's name were put the stars she had won that week. Two prizes were offered, one to the class that had earned the most stars, and the other to the girl who had shown the greatest improvement. These prizes were presented by the principal at the assembly exercises.

The New York Nutrition Council, in coöperation with the Home Economics Association of Greater New York, held a meeting January 16 at the Young Women's Christian Association. Two phases of the general topic, The Problem of the Foreign Born, were discussed: What can we Expect to Accomplish with the Foreign Born? Albert Shiels, Professor of Civic Education, Columbia University; The Foreign Born Woman in the Home and her Needs, Elizabeth A. Woodward, State Supervisor of Classes for Immigrant Women.

Teachers College, Columbia University, announces several courses of special interest to extension workers for the coming Summer Session.

Miss Baldt and Mrs. Tobey will repeat their course in Special Problems in Clothing for Extension Workers. Professor Gunther has planned two courses based on requests from the field—one, House-wifery and Buying to include technical laboratory processes plus the buying of household supplies; the second, Principles in House Management to include (a) budget and income management, (b) house furnishings, and (c) care and upkeep problems. Accompanying these Miriam Birdseye of the States Relations Service will offer a course in special methods for extension workers.

NEW MEXICO

The Home Economics Association of New Mexico met at Albuquerque, November 28, 1922, in connection with the State Teachers' Association, Mrs. Ruth C. Miller presiding. The program was as follows: Effect of Home Economics in the Development of the Education of Women, Blanche Gillmore, Department of Home Economics, State College; Responsibilities of a Home Economics Teacher from a Senior Girl's Viewpoint, Senior from State College; Explanation of Various Phases of Vocational Home Economics, Ruth G. Taylor, State Supervisor of Home Economics; Possibilities of Home Economics with the Women of the State, Mrs. Elizabeth Koger, Dean of Women, New Mexico A. & M. College; Evening Classes in Rural Districts, Mrs. Margaret M. Leibold, instructor of evening class work at Santa Cruz; Teaching Child Care to the Public, Dr. Janet Reid; The Home Economics Program of the Women's Clubs, Mrs. George D. Ruoff, Chairman, Home Economics Committee of New Mexico Federation of Women's Clubs.

SOUTH DAKOTA

The South Dakota Home Economics Association held a meeting in Pierre, November 27–29, 1922, in conjunction with South Dakota Educational Association.

Miss Flemington of Aberdeen gave a report on Operating Costs of Food Laboratories from a study made from various schools in the state. Miss Sims, State University, reported on Job Analysis as taken up by the Vocational Conference in Minneapolis in June. Miss Nelson of Dell Rapids gave a paper on Club Work, and Miss Courtney, State Supervisor of Home Economics, discussed Minimum Essentials of a Home Economics Course. Two books were reviewed: McCollum's "Newer Knowledge of Nutrition," and Lane's "Diet and Specific Therapy."

The following officers were elected: President, Elsie Hardy, Madison; Vice-president, Miss Nelson, Dell Rapids; Secretary, Miss McKay, Huron.

NOTES

Mrs. Lulu R. Lancaster has resigned her position in the University of Arizona in order to study, during the second semester, in the Merrill-Palmer School, Detroit.

Florence V. Ritchie, a graduate of Iowa State College, is now teaching in College Springs, Iowa. In connection with her work she is in charge of a school garment club which the members have named the Amity Strivers. The purpose of the club is to interest the girls in better garment construction.

Edith M. Thomas has been appointed to fill the position made vacant by the promotion of Miss Baylor in the Federal Board for Vocational Education. Miss Thomas is Federal Agent for Home Economics Education, North Atlantic and Southern States.

MINUTES OF THE MEETINGS OF THE EXECUTIVE COMMITTEE AND COUNCIL OF THE AMERICAN HOME ECONOMICS ASSOCIATION

Council Meetings, Detroit

December 1 and 2, 1922

Present: Officers—Alice Blood, presiding, Katharine Blunt, Anna Richardson, Mary Sweeny, Lenna F. Cooper. Councilors at Large—Cara Harris, Faith Lanman, Margaret Sawyer. Regional Councilors by Election—Edith Thomas, Southern Region. Regional Councilors by Appointment—Jenny Snow, Central Region; Anna M. Cooley, Eastern Region; Anna Kloss, New England Region. State Councilors—Stella Palmer, Arkansas; Edna McNaughton, D.C.; Helen Livingstone, Michigan; Frances Kelley, Minnesota; Margaret Fedde, Nebraska; Grace P. Gillett, New York; Blanche Shaffer, North Carolina; Alba Bales, North Dakota; Marie Sayles, Ohio; Florence Busse, Iowa; Isabella Wilson, West Virginia; Louise Stanley, Missouri; Mary Beeman, Indiana; Frances Swain, Illinois. Section Chairman—Ruth O'Brien, Textile Section.

Presentation of credentials by State Councilors.

Voted: to adopt the order of business prepared by the Executive Committee.

Voted: to omit the reading of the minutes of the Corvallis meeting, inasmuch as they have been printed in the JOURNAL.

Minutes of the Executive Committee meetings held in Washington, October 14, 15, 1922, read and approved with the correction that "The International Committee is empowered to fill the vacancy in Constantinople" be changed to read: "The International Committee is empowered to recommend to Constantinople College a candidate to fill the vacancy in Constantinople."

Executive Secretary. The Executive Secretary stated her program of work, as outlined by the Executive Committee (page 175), and reported:

1. Affiliation. Mississippi, Iowa, Missouri, Indiana, West Virginia have affiliated since the annual meeting, making a total of 30 states. Increased membership since August 1, 568 members, or 18.7 per cent. Wisconsin and Kansas have voted affiliation but have not completed arrangements. Five New England States have voted affiliation and are working on a plan of coöperation within the New England Association. Oklahoma, Colorado, New Jersey, Virginia, and Wyoming have the matter under consideration. Porto Rico requests that its status be determined and hopes to affiliate on the same terms as a state. Canada requests statement of terms of affiliation.

2. Legislation. Miss Richardson has represented the Association on sub-committee on Home Economics Amendment and on sub-committee on Sheppard-Towner Act. She requested Kentucky and Tennessee Home Economics Association to do some special work with members of Congress who had influence in matters affecting the Act. Effective work was done by both states. States should hold themselves in readiness to work with their congressmen and senators in furthering the Home Economics Amendment (Fess Bill) if it is reported out of committee.

3. Contacts. Because of extended field service (see JOURNAL, December 1922, page 644, and January 1923, page 52) the Executive Secretary has no report to make regarding contacts with other organizations. The Executive Secretary insists that her service to the Association can be made effective only through the coöperation and support of every home economics woman in every state.

Recommendations of the Executive Secretary were acted upon as follows:

Voted: that Porto Rico be admitted to the Council on the basis of a state and affiliated with the rights of such.

Voted: that Canada be admitted to the Council on the basis of a state, not as a region as previously determined, and affiliated with the rights of such.

Voted: that the request of Montana that Montana, Idaho, Washington, Oregon, Utah, and Wyoming be redistricted into a region known as the "Inland Empire" be referred to the Committee on Regional Organization with power to act.

Voted: that the Committee on Regional Organization study the advisability of allowing local home economics clubs to affiliate with the American Home Economics Association through state home economics associations and report to the Executive Secretary by May 1.

Voted: that the Legislative Committee coöperate with similar committees from other organizations to consider the advisability of filing briefs of the Sheppard-Towner Act and, with the consent of the Executive Committee, to file briefs either jointly or singly, as the Attorney General may advise.

Voted: that the councilors and presidents, present at this meeting representing the states of the Central region, be authorized to constitute themselves a nominating committee to nominate candidates for a regional councilor and to present nominations to the Executive Secretary who in turn shall present them to the presidents of the Central States. (The by-laws state that regional councilors shall be elected by the state presidents but do not provide for initiation of action.)

Voted: that the Committee on Regional Organization consider the procedure for the election of regional councilors and make recommendations for the amendment of the by-laws by May 1.

Recommendations in regard to state programs of work, reports of state committees, and the affiliation of undergraduate home economics clubs were referred to a special committee (Palmer, Sayles, Fedde) upon whose recommendation the following action was taken.

Voted: first that each state adopt a definite plan of work; second, that presidents of state associations report plans and names of committees to the Executive Secretary, these committees to report to the state presidents and through them to the Executive Secretary, the progress of work four times a year, a copy of the report to be sent to the state councilor; third, that state associations encourage the affiliation of student organizations, such organiza-

tions to pay a fee of $2.00 to the American Home Economics Association through the state association, and in addition whatever fee each state determines to the state association. It is recommended that the local fee be fixed at $3.00 making the total affiliation fee $5.00. Student organizations shall have no voting privileges but shall receive proceedings and announcements as a club.

Journal Board. Report read by the secretary.

The Journal Board is now considering candidates for the position of full-time editor and hopes to make recommendations to the Executive Committee in the near future. It would appear that this appointment should be made as early as possible in order to give the editor time to get thoroughly into touch with JOURNAL interests before actually beginning her work under the new conditions of full-time editorship. The JOURNAL BOARD again urges the members of the Association to give the JOURNAL their active support by subscribing and getting others to subscribe, and by coöperating with the associate editors through bringing them into touch with newer developments in the different phases of home economics work.

Richards Memorial Fund. Report read by Cora Winchell, Secretary-Treasurer.

REPORT OF ELLEN H. RICHARDS FUND, FEBRUARY 18, 1922

I. List of Items Representing the Ellen H. Richards Fund, February 18, 1922

Guaranteed first mortgage on New York real estate with interest guaranteed at 5½ per cent	$3,000.00
Liberty Bonds and Victory notes of United States	2,900.00
Balance in Emigrant Industrial Savings Bank, New York, at 4 per cent	331.22
Balance in Corn Exchange Bank—checking account	278.82
	$6,510.04

II. Expected Income Schedule of Richards Fund for 1922

Interest on mortgage	$165.00
Interest on United States Bonds	123.25
Savings Bank interest	14.04

III. Receipts and Expenditures for Year February 1, 1921 to February 18, 1922

Receipts:		
Contributions	$146.00	
Interest—including back interest credited	478.11	
Profit by purchasing $1500 of U. S. Bonds at $1314.01	185.99	
		$810.10
Expenditures:		
Contribution to Constantinople College Professorship		200.00
Net increase of fund in year		$610.10

IV. Summary for Past Four Years, February 28, 1918, to February 18, 1922

Receipts:	
Balance in Fund February 28, 1918	$4,615.67
Received from contributions and interest four years to February 18, 1922	2,108.48
Received from profit on purchase of $1500.00 United States Bonds for $1314.01	185.99
Total Receipts	$6,910.14

Expenditures:

To Chicago University, July 25, 1919 for Richards Fellowship	$200.00
To Constantinople College Fund, February 8, 1921	200.00
Exchange	.10
Total Expenditures	$400.10
Bal. on hand	$6,510.04

V. Appropriations from Income of Richards Fund to date

Chicago University for Richards Fellowship December 12, 1916	$200.00
Chicago University for Richards Fellowship July 25, 1919	200.00
Constantinople College Professorship February 8, 1921	200.00
Total paid out	$600.00

Voted to appropriate $200.00 to Teachers College, Columbia University, for a joint fellowship in 1919–20, but no satisfactory candidate appeared, so payment was not made to Teachers College.

Voted, for 1922, $300.00 for special lecturers or speakers at Corvallis Convention of American Home Economics Association.

VI. Richards Memorial Funds with the Treasurer of the American Home Economics Association

The Association office in Baltimore has from time to time issued publications which have been sold for the benefit of the Memorial Fund. This Baltimore account has for several years borne the small expenses of the Richards Fund, for safe deposit rental, postage, etc., including this year, certain expenses of the Corvallis, Convention, so that no part of the $300 appropriated was drawn from the income of the Memorial Fund.

Organization of 1922 Board: Two ballots sent out by mail resulted in July in the choice of Mrs. Abel as Chairman for 1922; an additional ballot in the fall elected Miss Winchell as Secretary-Treasurer for 1922.

BENJAMIN R. ANDREWS,
Acting Secretary.

STATEMENT OF RICHARDS FUND, FEB. 18, 1922 TO NOV. 10, 1922

(These entries have not been made in Treasurer's Book)

Balance on February 19, 1922		$6,510.04
May 9, 1922	Interest on Mortgage	82.50
May 9, 1922	Contribution from Students of Sophie Newcomb College, New Orleans	50.00
May 24, 1922	New England Home Economics Association	32.00
May 24, 1922	Psi Upsilon Omicron Fraternity	37.64
May 24, 1922	Interest on Second Liberty Bond No. 1588110	6.00
May 24, 1922	Interest on Second Liberty Converted No. 1997214	1.07
June 13, 1922	Home Economics Club, Iowa State College	150.00
Nov. 2, 1922	Interest on Mortgage	82.50
		$6,951.75
Less Bank charge on check		.15
		$6,951.60

Represented by

1. Mortgage owned	$3,000.00	
2. United States Liberty Bonds	2,900.00	
3. Emigrant Industrial Savings Bank, January 1, 1922	331.22	
4. Balance, Corn Exchange Bank	720.38	
		$6,951.60

Notes: 1. There is still to be credited interest on United States Bonds and interest at Savings Bank which will increase the actual total on hand.

2. There is some balance with the Treasurer of the American Home Economics Association from the sale of publications which can doubtless be transferred to the Fund. (See Treasurer's Report.)

3. The interest checks on the registered Liberty Bonds have never been received regularly. They should be transferred into the coupon forms, and at that time a request made for payment of any back interest checks that may have been returned to the Treasury Department.

CORA M. WINCHELL,
Sec.-Treasurer.

Discussion indicated that it is the opinion of the Council that the income should be spent each year and that the use of the income to provide speakers for national meetings would be appropriate.

Legislative Committee. Report presented informally. Miss Stanley reported that the Fess Bill might be reported out in the near future and requested that all members get in touch with their representatives and with those Senators who are members of the Committee on Education. There seems to be no chance for the Smoot Bill during the short session, but Mr. Smoot plans to introduce it in the next session. The Committee suggested that no action be taken regarding the request of the National Sheep and Wool Bureau of America.

Committee on Interrelations with other Organizations. Report presented informally. Miss Sawyer urged the importance of keeping in touch with the work of other organizations through joint committees, and through representation at meetings.

Program Committee Chicago Meeting. Report presented informally. Miss Blunt reported the date of the meetings as July 30 to August 3; that the headquarters are to be at the University of Chicago. Miss Swain is in charge of local arrangements, including hotel accommodations and trips. General meetings will be held in the evening, leaving mornings or afternoons free for trips, council meetings and section meetings. Four sessions will be devoted to section meetings.

The question of the date of the meeting was reopened for discussion. Voted: that the date of meeting remain unchanged.

Special Committee on Affiliation with Vocational Societies. See page 176. Miss Blunt presented the plan from the Joint Committee with recommendation for favorable action from the Executive Committee of the Association.

Preamble: In order to advance the interests of sound practical education, and the conservation of the American youth; promote effective coöperation between state, regional, and national organizations directly concerned with such education and such conservation; and receive a better understanding and better team play between those engaged in general and applied education, the following has been approved by the organizations whose names are attached hereto:

1. Nothing in this coöperative plan shall operate to prevent each association from maintaining as hitherto its own organization.

2. Each association shall choose five representatives to a council, and shall vote to authorize its representatives to join the representatives of the other coöperative associations to form a council, effective during approval by said organizations.

3. The powers, duties, and limitations of the council shall be as follows:

(a) To arrange plans for joint conventions and propose these plans to the coöperative organizations for approval.

(b) To study the whole plan of federation and present further plans during the next year and at the next annual convention of each organization.

(c) To work out a scheme for approval of the National Society for Vocational Education for the coöperation of these associations in the publication of the Vocational Educational Magazine.

(d) To work out a plan of affiliation with the National Education Association and to present the plan to the coöperative associations for their approval.

4. Each organization hereby approves this plan and authorizes its executive committee to choose its representatives, and to consider and approve the proposals of the council, provided said proposals are not inconsistent with the constitution and by-laws of the organization.

The plan was discussed at length. Members felt that we are not ready to lose our identity and that we have many interests not represented by the other societies, but that we should cooperate in a plan to study possibilities of effective joint action in promoting a school program. The report was finally accepted and the Executive Committee authorized to appoint delegates to the joint council. It was later considered whether our action should be made contingent on unanimous consent of all the groups present at the conference. After debate, a motion was carried that, unless the plan was adopted unanimously by the Associations convening at Detroit, the matter be referred to the Executive Committee with power to act. The Executive Committee later decided to accept the plan, in spite of the fact that it was not accepted by the National Society for Vocational Guidance. (See page 178.) The plan was accepted by the National Society for Vocational Education and the Vocational Education Association of the Middle West.

Committee on Time and Place of Meeting, 1924. Stella Palmer reported for Miss Helbing that invitations had been received from Chattanooga, Asheville, Philadelphia, and New Orleans. The Committee recommended that consideration be given the invitation of New Orleans, with the suggestion that the meeting be held during the Christmas Holidays of 1923–24.

Voted: that the invitation of New Orleans for the Christmas Holidays, 1923–24, be accepted; that the meeting be not considered the annual business meeting; that the program be similar in length and character to that of the annual meeting; that the appointment of the chairman of the program committee and the decision in regard to exact dates be left to the Executive Committee.

Voting Rights of Sections. On the recommendation of a special committee, Frances Kelley, Chairman, the following action was taken:

Voted: that a change in the constitution be made so that voting privileges in any section do not depend upon dues paid to the section. However, any section may collect money to carry on any work approved by the Executive Committee.

Voted: to try for one year the plan of holding simultaneous business meetings of sections, followed by a meeting of all retiring and newly elected chairmen of sections acting as a coördinating committee. Plans so prepared can then be presented to the business meeting of the Association for authorization.

Finance Committee. Report submitted by Miss Donham.

In accordance with your instruction a meeting of the Finance Committee was called in Baltimore, October 13, to make a general survey of the finances of the Association and report to this body.

Present Conditions. It was found impractical to review past expenditures with any idea of applying the results to future budgets of the Association.

1. Many chairmen in the past have defrayed all or a large part of committee expense and the reported expenses of committees have been so irregular as to offer no basis for judgment as to needs.

2. The scope of the work and the financial needs have greatly increased during the past three years and are more insistent at the present time than ever before.

3. The amount of income is not and never has been sufficient to meet the legitimate expenses of the President, Executive Committee, and Council, or of Sections and Committees. No matter what estimates are made the budget must be controlled by the probable income.

Our report thus becomes a series of discussions and recommendations as to organization and policies affecting our finances. The Finance Committee begs every member to consider our financial situation and to appreciate the importance of enlarged membership.

Reorganization. Your committee fully believes that the work of the office and of the whole Association is made less effective and more expensive by the separation of office costs and operation of the Association and JOURNAL and the administration of their different funds.

The Richards Memorial Fund Publications handled by the office force should either be considered an additional source of income to the Association, or should be purchased outright by the Association from the trustees, thus preventing the necessity for separation of records.

The JOURNAL should be considered an income-producing organ of the Association, one of the major pieces of work of the office force, the records kept in such a way as to show profit and loss on the JOURNAL, without its being necessary to divide and apportion each separate item of office expense, with no definite knowledge as to the amount of time or labor actually given to either JOURNAL or Association.

The Committee to Promote the JOURNAL recommended "That a full-time editor on salary be employed to study and attempt to meet through the pages of the JOURNAL the varying needs of home economics workers, or an executive secretary employed on salary with a paid assistant, the two being jointly responsible for the publication of the JOURNAL. (See JOURNAL, November 1922, page 591.)

In the opinion of the Finance Committee this should be put in force as soon as practicable, by July 1, 1923, at the latest. The organization thus made would open possibilities for a better adjustment of salaries. The present force is, in the opinion of your Committee, underpaid and a plan of office organization might well be established which would cover the necessary work, unite the Association interests, and cost little more than at present.

There are at present six funds within the organization: Association, JOURNAL, Executive Secretary, Section, Richards Memorial Fund, and Life Membership. These funds should all be held by the Treasurer in order to prevent loss of touch with details through change of officers.

Fiscal Year. The members of the Association would have a keener understanding of the finances if the fiscal year were identical with the membership year, i.e., July 1 to June 30. Figures presented at the Annual Meeting would indicate actual conditions at the end of one year and the beginning of another.

The records of committee finance are insufficient to give the Chairman of this committee proper background to make it possible to assign arbitrary allotments of funds as is done in some organizations. A major difficulty is that officers and chairmen have met expenses from private funds.

Not later than May 15 each year the chairman of each section and each committee should be required to submit to the Finance Committee a short outline of the work in progress and planned, the probable cost of carrying out that program and an estimate of the minimum amount of money necessary to the efficient work of the committee during the coming year. This program and budget estimate would serve as a link between the work of two years and would give new chairmen an idea of the demands of their section or committee.

New committees appointed by the Council at the Annual Meeting should have money appropriated as later recommended.

Organization and Duties of the Finance Committee. The Finance Committee is at present a clumsy and ineffiective vehicle of control. The work and responsibility must come upon the chairman. To get votes by mail from so scattered a committee presupposes promptness, forehandedness, and leisure on the part of this Chairman, and of committee and section chairmen, and knowledge on the part of each member as to details, which no one not handling these details can have unless supplied by a sufficient clerical force. Under existing conditions the vote of the other members becomes a blind authorization of the Chairman's decisions.

The purpose of control could be served better by appointing a Comptroller who should authorize the payment of all bills outside the budget and make such new decisions and arrangements as seem advisable after consultation with the President and the Executive Secretary or any other officers involved in the solution of the immediate problem. The Comptroller should present the financial report for the year and the budget for the coming year at the Annual Meeting. In sum, do with authority what the present Chairman of the Finance Committee is forced to do without an adequate vote of her committee.

The President, Treasurer, Executive Secretary, Editor and the Business Editor of the JOURNAL should be members ex-officio of a Financial Advisory Board, any of them in a position to know of the policy of the Comptroller and with the right to demand a vote of the Advisory Board if, in their judgment, the Comptroller seems to be adopting an unwise policy.

Income. Our income as an Association is entirely from membership fees. With 30,000 trained workers in the field it is evident that we should have a larger membership if the Association is to be of adequate professional value. We have high hopes for increased membership through our new state organizations, but we must realize that the national Association cannot function smoothly and give adequate professional backing to the state associations unless the financial problems referred to in this report are solved.

The support of the Executive Secretary is now being covered by a special fund. Unless we are to take a backward step we must in the near future, certainly by 1924, undertake the support of this officer from the general funds. These funds are inadequate for present expenses; we are thus faced with the need for a large increase in income.

Our present membership will give an income of approximately $3500 from fees. It is impossible to state how much we can hope for from increased memberships. This Committee considers it unwise to present a budget for more than our probable income. A fifty-fifty division of the present joint expenses of the JOURNAL and Association will bring the budget to $4105, if that of 1922 is not increased except by the difference in distribution.

This allows nothing for growth though the natural development of our Association work would naturally absorb a budget of $6500, not including the expense of the Executive Secretary. The combined budget might well be of $13,000. The probable income from the JOURNAL is even less easily prophesied, as it is hoped that the present drive for subscriptions may be productive of much increase in funds. The cost of publication and distribution automatically increases with the number of magazines issued and the net gain is at the moment uncertain. If the Association and the JOURNAL continue as separate activities this increase will not affect the income for Association activities.

State affiliation has so far done little more than compensate for the loss of one dollar each, formerly paid by individual members. There is, then, little hope for adequately increased funds through the affiliation of states alone, even if we reach our goal this year of 5000 members. The committee feels that the time has come to appoint a committee to discuss the question of a professional standard for active membership with an adequate fee, and an associate membership, with our present fee, open to all who are interested in advancing the home economics movement.

Recommendations of the Finance Committee were acted upon as follows:

Voted: to validate the action of the Executive Committee (page 175), with reference to payments from states.

Voted: that the Finance Committee be abolished and a Comptroller and Financial Advisory Committee be appointed or elected each year as suggested in the discussion.

Voted: that the Comptroller be made a member ex-officio of the Executive Committee and Council and receive copies of all minutes as a record of authority to approve bills for special appropriations not included in the budget.

Voted: that the custody of the Ellen H. Richards Fund be transferred to the Treasurer of the Association, subject to the disposition of the trustees, bills payable by the Treasurer only upon authorization by the chairman and treasurer of the trustees.

Voted: that the Executive Committee consider the readjustment of the proportional part of the joint expenses of the Association and Journal, to be met by each, so that the office, clerical, and other expenses may be shared more equitably.

Voted: that the interest actually earned by the life memberships be assigned to the general funds rather than the 5 per cent so credited since the ruling of 1919.

Voted: that each year the chairmen of all sections and standing committees be notified that they must submit budgets, reports, and programs to the Comptroller by May 15 in order that the Comptroller may submit the full budget to the Council at the Annual Meeting as required by the by-laws. When the Secretary of the Association notifies the chairmen of sections and standing committees of their election or appointment to office she shall also furnish them with copies of these programs and budgets of the previous administration.

Voted: that the fiscal year be from July 1 to June 30 and that the budget for the next fiscal year be based upon estimates submitted in May by the officers, and chairmen of sections and of existing committees.

Voted: that bills not authorized under the budget by the Council at the Annual Meeting shall not be approved by the Comptroller unless authorized by the Executive Committee to provide for extra work.

Voted: that the Executive Committee or Council when requesting or authorizing special work (not provided for in the budget) by chairmen of committees or individuals shall, subject to approval of the Comptroller, make provision for meeting the expense of such work by authorizing a maximum appropriation, beyond which the committee may not incur expense.

Voted: that the expenses of the President, and when our income reaches an amount which justifies it the expenses of the Secretary and members of the Executive Committee, be paid when on Association business, and that if desirable a fund be placed at the disposal of the Comptroller and the President, to be used in emergencies.

Voted: that if the Editorial Board of the JOURNAL deem it otherwise desirable, the Finance Committee feels that the JOURNAL prospects for the coming year justify the employment of a full-time editor of the JOURNAL who will be of such type that eventually, when the special work of affiliating organizations is complete, the position may become a general one of Executive Secretary with the editorship of the JOURNAL one of her major duties, thus doing away with the present separation of JOURNAL and Association which is detrimental to the establishment of any definite financial policy.

Voted: that by the end of the current Association year, the Chairman of the JOURNAL Board, the Editor of the JOURNAL, the Business Editor of the JOURNAL, the Executive Secretary, and the Comptroller, with the approval of the President, submit a plan for the simplification of accounting based upon the premise that the JOURNAL, the Richards Memorial Fund, and the Executive Secretary Fund are associate activites; that the Comptroller act as chairman and treat this report as a continuing financial report.

Voted: that a Committee be appointed to consider additional sources of income such as convention fee, an exhibit at annual meeting, etc.

Voted: that all officers and chairmen submit an accurate account of all expenses for Association work during the current year in order that the Comptroller may be able to estimate the actual cost of conduct of the Association.

Voted: that the by-laws be so changed as to make effective these recommendations.

Tabled: the recommendation to consider increasing dues for active members and recognizing associate members on the present basis.

Treasurer's Report and Budgets, submitted by the Finance Committee. A budget carrying us to June 30 was accepted in principle and referred to the Chairman of the Finance Committee for final revision. The Chairman of the Finance Committee and the President beg leave to substitute the appended combined JOURNAL and Association budget in which the JOURNAL budget has been adjusted to June 30, and to substitute for the trial balance of November 1 the Treasurer's report for the fiscal year ending December 31, 1922, together with an analysis by the chairman of the Finance Committee.

TREASURER'S REPORT OF OPERATIONS, JANUARY 1 TO DECEMBER 31, 1922

Association

Receipts		Disbursements	
Publications	$31.18	Salaries, Officers	$500.00
Dues	3,379.25	Salaries, Clerical	554.99
Advertising	237.80	Printing and stationery	142.27
Interest	26.90	Postage	108.96
Exchange	2.01	Affiliation dues	5.00
Excess payments	4.81	Office	232.45
		Meetings	64.39
	$3,681.95	Bulletin	1,002.77
		Traveling	618.29
		Legislative	5.00
		Telephone and telegraph	35.30
		Rent	48.00
			$3,317.42
		Excess	364.53

Journal

Receipts		Disbursements	
Subscription	$15,720.91	Salaries—Officers	$2,700.00
Less discounts to dealers	573.98	Salaries—Clerical	1,473.03
		Printing and stationery	325.23
	$15,146.93	Distribution	12,003.72
Copies	253.31	Traveling	435.18
Reprints	179.11	Telephone and telegraph	53.41
Advertising	3,926.14	Office	174.65
		Postage	363.33
	$19,505.49	Rent	192.00
			$17,720.55
		Excess	1,784.94
		Total Excess	$2,149.47
		Surplus January 1, 1922	1,442.28
		Present Surplus	$3,591.75

Statement after closing of books

Assets		Liabilities	
Equipment	$528.67	Textile Section	$193.00
Cash		Executive Sec. Fund	2,852.49
Baltimore Trust Co.	6,088.58	Institution Section	96.59
Baltimore Sav. a/c	696.81	Life Membership	255.00
Miss Baldwin	2.00	Richards Memorial Fund	662.23
Miss Blood	10.00	Surplus	3,591.75
Miss Sweeny Ex. Sec.	300.00*		
Miss Sweeny	25.00		$7,651.06
	$7,651.06		

* For travel expenses.

Analysis of Treasurer's Report

The Treasurer has received for the Association during the year 1922	$3,681.95
He has disbursed	3,317.42
Leaving a surplus of	$364.53
The JOURNAL receipts have been	19,505.49
Disbursements	17,720.55
Leaving a surplus of	$1,784.94
A total surplus for the year of	2,149.47

The Treasurer's report shows an old surplus of $1442.28; of this $528.67 is equipment. This makes the total surplus account on Jan. 1, 1923 as follows: Equipment $528.67, Cash $3,063.08. This surplus should not be appropriated for current expenses but held as a working balance which will prevent the necessity of borrowing in anticipation of receipts.

Status of Executive Se retary Fund

Year of 1922

Receipts			
Jan. 1 Balance	$908.40		
Through Baltimore Office	665.49		
From Chr. Pledge Com.	2,591.63		$4,165.52
Disbursements			
Travel			
Miss Thomas	$79.40		
Miss Field	17.19	$96.59	
Miss Sweeny		119.15*	
Operating			
Equipment	$120.75		
Supplies and postage	45.77		
Telephone and telegraph	7.77	174.29	
Salary			
Executive Sec.	$750.00		
Clerical	173.00	923.00	1,313.03
Balance			$2,852.49

Statement of Assets and Liabilities, Executive Secretary Fund to June 30, 1923

Balance Jan. 1, 1923	$2,852.49	Salary, Exec. Sec.	$2,160.00
Amt. necessary to raise before June 30	807.51	Clerical	450.00
		Operating and Equipment	250.00
		Travel expense	800.00
	$3,660.00		$3,660.00

* Inasmuch as the full amount of the Executive Secretary Fund has not yet been raised for this year Miss Sweeny has had to finance most of her trips by taking speaking engagements, which has meant that travelling expenses have been met by State Teacher's Associations.

Association Budget January 1, to June 30, 1923

Salaries		
Executive Secretary	$2,160	
Clerical	450	
Office Secretary	250	
Clerical	450	
Extra assist	150	
Treasurer-clerical	50	$3,510
Travel		
Executive Secretary	$800	
President	175	
Emergency	150	1,125
Office		
Rent	$24	
Telephone and telegraph	50	
Postage	75	
Printing and stationery	75	
Executive Secretary operating and equipment	250	
Office operating	100	
Affiliation dues	25	
Advertising	50	649
Meetings		
Program	$100	
Publicity	50	150
Sections and Committees		100
Reorganization of finances		100
		$5,634

Journal Budget to June 30

Salaries	
Editor	$600.00
Business Editor	750.00
Clerical	700.00
Travel	150.00
Printing and distribution	7500.00
Rent	96.00
Printing and stationery	225.00
Postage	200.00
Telephone and telegraph	25.00
Office operating and equipment	175.00
Advertising	50.00
	$10,471.00

*Probable Receipts and Funds on hand for full year**

Membership Dues	$4,000
Executive Secretary Fund	6,000
Subscriptions to JOURNAL	18,550
Numbers and Reprints	400
Advertising	4,000
	$32,950

* As receipts are usually light during the first six months of the calendar year and correspondingly heavy during the last six months, the probable receipts for the ensuing twelve months are given here, showing that it will be possible to meet all bills and that the proposed change in the fiscal year will provide the larger amount of income at the beginning of the year, thus indicating the development possible during the remainder of the year and preventing the necessity of reporting temporary deficits at the Annual Meeting.

A hypothetical budget to meet even in part the expense of officers, to finance the Executive Secretary, and to support committees was presented and discussed. A minimum estimate calls for 12,000 members by the annual meeting in 1924.

Miscellaneous. Voted: that the recommendations of the Executive Committee regarding the appointment of a committee on Nutrition in the School Health Program, nominations to Mr. Owen, and the increase of contributing memberships be approved (page 177).

Tabled: the question of omitting the mid-winter meeting inasmuch as it seems advisable to meet in New Orleans next year.

Voted: that a committee on the Bureau of Home Economics be appointed by the Executive Committee to act in conjunction with a similar committee from the Association of Land Grant Colleges. The question of making nominations is left to this committee with power to act.

New Business. Voted: to request Mrs. Bryan to allow her name to be considered for the position as full-time editor of the JOURNAL.

Voted: that the Executive Secretary appoint our alternate on the Women's Joint Congressional Committee to replace Miss Richardson.

Voted: to appoint Abby Marlatt Trustee of the Richards Memorial Fund to replace Edna White.

Voted: to empower the Chairman of the Research Committee to add members to the Committee.

Voted: to authorize the payment of the expenses of the President to the meeting of the Executive Committee in Washington and to Detroit.

Tabled: motion that a $2.00 convention fee be charged for the Chicago meeting.

Voted: that the Executive Committee be empowered to act with reference to an Executive Secretary for 1923–24.

MEETINGS OF THE EXECUTIVE COMMITTEE

Washington, October 14 and 15, 1922

Present: Alice Blood, presiding, Mary Sweeny, Lenna F. Cooper, Anna Richardson, Edith Thomas, Margaret Sawyer, Katharine Blunt, Keturah Baldwin, S. Agnes Donham, by invitation.

Voted: to file a record of meetings of the Executive Committee in the office of the President and of the Executive Secretary.

Voted: to prepare an order of business in advance and present it in writing for all meetings of the Council.

Finance. A preliminary report from the Finance Committee, presented by Miss Donham, was approved in principle after discussion, and referred to the Detroit meeting for final action.

In view of this report it was voted that in order to allow us to judge of possible income and to systematize office work, new state associations affiliating with this Association pay their dues of $1.00 per capita membership upon affiliation, these fees to be credited for the current year if paid before April 1; payment of these dues shall be necessary if the new state is to have representation at the annual meeting; the treasurers of the state organizations already affiliated shall return their membership lists and fees as of July 1, by January 1. The names of new members joining state organizations after January 1 shall be forwarded to the Association office by June 30. Members joining after May 1 shall be considered as joining for the following year if so reported by the state treasurer.

Voted: to pay Miss Donham's expenses to this meeting and to Baltimore.

Executive Secretary. Miss Blood announced Miss Sweeny as Executive Secretary and called for a statement from her regarding the needs of the Association. Full discussion.

Voted: that the duties of the Executive Secretary are:

1. (a) To promote the organization and affiliation of states not yet affiliated, and (b) to help states already affiliated with their programs of work. 2. To further the legislative program of the Association and to serve on the Women's Joint Congressional Committee. 3. To make such contacts with associations having related interests as may seem desirable for the development of our activities.

Voted: that Miss Sweeny is appointed to serve from October 15 until the next annual meeting at a salary of $3600; that an additional secretary and the necessary office equipment be charged to the Executive Secretary Fund; that Miss Sweeny be allowed traveling expenses to an extent permitted by the Fund and maintenance up to $7.00 a day when traveling.

Voted: the office of the Executive Secretary shall be at the Association Office, Baltimore.

Annual Meeting. Discussion of plans for the Chicago meeting. It was judged impractical to accept the invitation of Purdue University to meet there for one day. The question of a commercial exhibit was referred to Miss Blunt with power. Voted: that the dates recommended by Miss Blunt, namely, July 30–August 3, be accepted.

Interrelations. Voted: to accept representation on the Committee of Twenty on Moving Pictures. The president was asked to serve and to appoint an alternate.

Voted: that the President appoint a representative to serve on the Committee on Motion Pictures of the General Federation of Women's Clubs.

Voted: that the president appoint a committee to coöperate with the Bureau of Vocational Information in the preparation of study of opportunities for women in home economics. (See appointments, page 179.)

Voted: to authorize the President to appoint a committee to confer with representatives from the other associations meeting in Detroit in conformity with the invitation from the president of the National Society for Vocational Education.

International Committee. The following recommendations were presented.

1. That the name of the committee be changed from International Committee on Teaching Home Economics to International Committee.

2. In considering the question of a successor to Mrs. Norton at Constantinople, we discussed the effect which the proposed reorganization of the JOURNAL might have upon her decision to return to this country in January, and we suggest that if the Executive Committee adopts that proposal, it cable Mrs. Norton to the following effect: "Fundamental reconstruction in administration of Association and JOURNAL under way. Candidates for full-time editor to be considered next July. Does this affect your return January?"

Voted: to accept these recommendations and to refer the second to the JOURNAL Board for action.

Voted: in the event of Mrs. Norton's return to the United States the International Committee is empowered to fill the vacancy in Constantinople.

Regional Councilors. The mode of election of regional Councilors was discussed. Miss Sweeny was requested to initiate action of the state presidents according to the constitution and to study a better method of procedure. By correspondence, November, 1922, it was agreed to ask the following persons to act as regional councilors until regions elect: New England, Anna Kloss; Eastern, Anna Cooley; Central, Jenny Snow; West Central, Gladys Branegan; Pacific, Maude Murchie.

Miscellaneous: Voted to send to Secretary Wallace a letter urging the appointment of a properly qualified woman as head of the new Bureau of Home Economics and indicating the responsibility of the Bureau. Letter and answer on file in the Association Office. The advisability of recommending a candidate was discussed and referred to the Council at Detroit.

Voted: that the Council consider the advisability of holding but one meeting each year for the transaction of business; and that it endeavor to secure representation of home economics interests on the programs of other associations as a substitute for our present plan of holding a mid-winter meeting. This recommendation is dictated by the feeling that it is unreasonable to ask States to send delegates to two meetings a year.

Voted: that we accept the convention fee of $2.00 announced by the National Society for Vocational Education for the Detroit meeting without further protest in spite of the fact that there has been no consultation with our Association on the matter.

Detroit, November 29, 1922

Present: Alice F. Blood, presiding, Mary E. Sweeny, Anna Richardson, Katharine Blunt, Jenny Snow, Margaret Sawyer, Edith Thomas, Lenna F. Cooper.

Voted: to recommend to the Council the appointment of a Committee on "Nutrition in the School Health Program" to carry on a part of the program of work of the Association not otherwise provided for.

Voted: to recommend to the Council that we accept the invitation of Mr. Owen to nominate six candidates from whom he may select a member to represent the Association on a commission to formulate the "American School Program."

Voted: that a greater effort be made to secure $100 memberships (contributing) for the Executive Secretary Fund from persons outside our professional group.

Voted: to allow bills amounting to approximately $25.00 for the exhibit of our Association at the National Public Health Exhibition in Brooklyn.

Voted: to cancel the $200 loan made to the Committee on Standardization of Textiles in 1920.

Voted: that the Consumers' Trade Discount System be not endorsed.

Voted: that the president investigate and act upon the continuation of our affiliation with the American Association of Social Workers.

Voted: that the Editor of the JOURNAL be requested to publish every month the names and addresses of officers and chairmen of sections and committees.

The president reported an invitation to members of the Association to attend the Christmas meetings of the Section of Social and Economic Science of the American Association for the Advancement of Science. The plan accepted at Corvallis to hold a special meeting at this time was dropped.

Miss Blunt, Chairman of the Association group in conference with representatives of the Vocational Societies, reported a tentative plan for the formation of a Council. Report was referred to our Council with a recommendation for favorable action. (For text of report, see page 165).

Informal discussion of Association problems and relationships.

Detroit, December 2, 1922

Voted: to appoint Cleora Helbing chairman of the Program Committee for the New Orleans meeting with power to organize other necessary committees.

Appointment of committee on Bureau of Home Economics. See page 174.

Voted: to accept the plan and to participate in the council of the combined organizations interested in vocational education, in spite of the fact that the plan was not accepted by the National Society for Vocational Guidance.

Report of work of Textile Section was accepted by mailed ballot, December, 1922.

The work of the Section has been concentrated in the following committees:

1. Membership: Chairman, Mabel McBain, Supervisor of Home Economics, Public Schools, Houston, Texas. A chairman for each affiliated state has been appointed with the permission and upon the recommendation of the presidents of the state associations.

2. Standardization: Chairman, Doris Schumaker, Assistant State Leader, Cornell University, Ithaca, N. Y. The Standardization Committee is continuing along the lines previously established. The Textile research committee of the National Research Council was organized last spring at the request of the Standardization Committee and includes three members from the Section in addition to the following representatives of industries: W. H. Corse, National Research Council; E. D. Walen, Cotton Research Company, Boston, Mass.; Austin Cheney, Cheney Silk Company, Manchester, Conn.; Spalding Bartlett, S. Slater & Sons, Webster, Mass.; John Bancroft, Wilmington, Delaware. This committee is considering the best means of determining minimum standards for textiles. The Section is attempting to finance the current expenses of this committee and at the same time accumulate a fund which can be used as a fellowship fund to carry on research in this connection.

3. Commercial relations: Chairman, Marian Weller, University of Minnesota. This committee is collecting information for those who are interested concerning methods to obtain active and reciprocal coöperation with commercial interests near schools. A leaflet may be distributed to commercial firms and associations explaining the size, extent, and scope of the home economics movement.

4. Research: Chairman, Grace Denny, Home Economics Department, University of Washington. This committee is keeping in touch with members of the Section who are doing research and will attempt to provide means for publication and distribution of valuable matter.

5. Educational Essentials: Chairman, Adah Hess, State Supervisor, Board of Vocational Education, Springfield, Illinois. A study of the essential subject matter to be presented in textile, clothing, and related courses, and an evaluation of the subject matter as now being taught will be undertaken with the coöperation of the Education Section.

6. Program: Elizabeth Weirick of Chicago is representing the Section on the general program committee for the Chicago meeting.

7. Finance: The Secretary of the Section is to send to all members a statement of the financial plans of the Section. The Section is to support the research program of the Standardization Committee to the extent of 75% of the funds available this year.

Report of August 1, 1922		Report of November 30, 1922	
191 members at $1.00	$191.00	33 members at $1.00	$33.00
7 members at $2.00	14.00	1 member at $2.00	2.00
198 members	$205.00	34 members	$35.00
Expense of Membership Committee	12.00	Expense of treasurer for postage, receipt books, etc.	2.00
Sent to Treasurer A. H. E. A.	$193.00	Bal. in hands of Section Treasurer	$33.00

Appointments

Representatives on Food and Nutrition Commitee of Child Health Council: Ruth Wheeler and Nina Simmonds asked to continue.

Delegates to House of Delegates, Women's Foundation for Health: Mrs. Mary Swartz Rose, Secretary; Elizabeth Condit; Mrs. J. A. Short; Annie MacLeod, Vassar College; Mrs. Mary De Garmo Bryan, acting as alternate for the President.

Representatives on Committee of Twenty on Moving Pictures (Will Hays's Committee) Mrs. Mary De Garmo Bryan, alternate with President.

Representative on Committee on Motion Pictures of General Federation of Women's Clubs: Mrs. Raymond Jewett, Mt. Vernon, N. Y.

Committee to Advise Bureau of Vocational Information: Helen Atwater; Mary K. Lindsley; Helen Thompson; Anna Van Meter; Mrs. Mary De Garmo Bryan; Anna Cooley; Genevieve Fisher; Octavia Hall; Florence Ward.

Special Committee to Confer with Vocational Association at Detroit: Katharine Blunt, Chairman; Lenna Cooper; Mary Sweeny; Helen Livingstone; Louise Stanley.

Alternate on Women's Joint Congressional Committee: Adelaide Baylor.

Chairman of Committee on Interrelations with other associations: Ula M. Dow; additional member, Grace Frysinger.

Committee on Bureau of Home Economics; Louise Stanley, Chairman; Faith Lanman; Grace Frysinger; Ruth Wheeler.

Chairman of Program Committee for New Orleans Meeting: Cleora Helbing.

Richards Memorial Trustees: Abby Marlatt, to fill out Miss White's unexpired term.

To International Committee: Annie Laird, Toronto.

Chairman of Membership Committee: Mary Sweeny.

Chairman of Publicity: Nina Streeter, 1370 East 54th St., Chicago.

Special Committee on "Nutrition in the School Health Program:" Margaret Sawyer, Chairman; Lydia Roberts; Jenny Snow; Cora Winchell; Ada Field; Mary McCormack; Effie Raitt; Ruth White; Louise Montgomery.

Added to Legislative Committee: Edith Allen; Mrs. Harvey Savely; Mrs. Dantzinger.

Correction, November Journal, p. 600: Chairman, Related Art Committee—Harriet Goldstein.

Resignations

Edna White from Richards Memorial Trustees and International Committee.

Hildegarde Kneeland from Research Committee.

Isabel Ely Lord and Agnes Craig from Publicity Committee.

Margaret Sawyer as chairman of Committee on Interrelations.

Mrs. O. E. Osborn as chairman of Membership Committee.

Lydia Roberts, as chairman of Committee on Social Welfare.

THE AMERICAN HOME ECONOMICS ASSOCIATION

OFFICERS

President—Alice F. Blood, Simmons College, Boston, Mass.
Vice Presidents—Isabel Ely Lord, 176 Emerson Place, Brooklyn, N. Y.
Katharine Blunt, University of Chicago, Chicago
Anna Richardson, Iowa State College, Ames
Secretary—Lenna F. Cooper, Battle Creek Sanitarium, Battle Creek, Mich.
Treasurer—H. Gale Turpin, Baltimore Trust Co., Baltimore, Md.
Executive Secretary—Mary E. Sweeny, 1211 Cathedral St., Baltimore.
Office Secretary—Keturah Baldwin, 1211 Cathedral St., Baltimore.

CHAIRMEN OF SECTIONS

Food and Nutrition—Mrs. Jessamine C. Williams, Univ. of Arizona, Tucson.
Home Economics Education—Ellen Reynolds, Cornell Univ., Ithaca, N. Y.
Home Economics Extension—Nina Crigler, Kansas State Agr. College, Manhattan.
Institution Economics—Sibylla Hadwen, Oregon Agr. College, Corvallis.
Textile—Ruth O'Brien, Iowa State College, Ames.

CHAIRMEN OF GROUP COMMITTEES

Home Economics in Business—Mary E. Keown, 10 S. La Salle St., Chicago.
Homemakers—Mrs. Mildred Weigley Wood, 726 N. Central Ave., Phoenix, Arizona.
Related Art—Harriet Goldstein, University of Minnesota, St. Paul.

CHAIRMEN OF STANDING COMMITTEES*

Journal Board—Katharine Fisher, Teachers College, New York City.
Finance—S. Agnes Donham, 161 Devonshire St., Boston, Mass.
Legislative—Louise Stanley, Univ. of Missouri, Columbia.
Membership—Mary E. Sweeny, 1211 Cathedral St., Baltimore.
Press and Publicity—Nina Streeter, 1370 East 54th St., Chicago
Richards Memorial Fund Trustees—Mrs. Mary Hinman Abel, Windsor Mill Road, Baltimore.
Secretary-treasurer—Cora Winchell, Teachers College, New York City.
International—Helen Atwater, U. S. Dept. of Agriculture, Washington, D. C.
Research—Minna Denton, Dept. of Agriculture, Washington, D. C.
Interrelations with other Organizations—Ula Dow, Simmons College, Boston, Mass.
Standards of Home Economics in Colleges—Helen Atwater, U. S. Dept. of Agriculture. Washington.

CHAIRMEN OF SPECIAL COMMITTEES

Regional Organization—Edith Thomas, Dept. of Education, Raleigh, N. C.
Executive Secretary Fund—Mary Matthews, Purdue University, Lafayette, Ind.
Program for Chicago Meeting—Katharine Blunt, University of Chicago, Chicago.
Program for New Orleans Meeting—Cleora Helbing, Dept. of Education, Baton Rouge, La.
Nutrition in the School Health Program—Margaret Sawyer, Red Cross, Washington, D. C.
Bureau of Home Economics—Louise Stanley, University of Missouri, Columbia.

* Committees as of December 10, 1922.